

Service
Service
Service

Service Manual



12 V



DIGITAL
dcc
COMPACT CASSETTE



PHILIPS

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TECHNICAL DATA

GENERAL

| | |
|--------------------|---------------|
| Power supply: | 14,4 V |
| Quiescent current: | < 2.0 mA |
| Playback current: | 2,8 A (4x5 W) |

TUNER

| | | |
|---|--------------------------------|--------------------------------------|
| FM | 87.5 - 108 MHz | grid: 100 kHz search, 100 kHz manual |
| MW | 531 - 1611 kHz (565 - 186 m) | grid: 9 kHz search, 1 kHz manual |
| LW | 144 - 288 kHz (2083 - 1042 m) | grid: 9 kHz search, 9 kHz manual |
| SW | 5.95 - 6.2 MHz (50.4 - 48.4 m) | grid: 5 kHz search, 5 kHz manual |
| Presets: 6 FM1, 6 FM2, 6 FM-AST, 6 SW, 6 MW, 6 LW | | |
| Sensitivity 26 dB S/N: | | FM: 4 μ V |
| | | SW: 28 μ V |
| | | MW: 28 μ V |
| | | LW: 56 μ V |
| IF (FM / AM): | | 10.7 MHz |












COMPACT CASSETTE

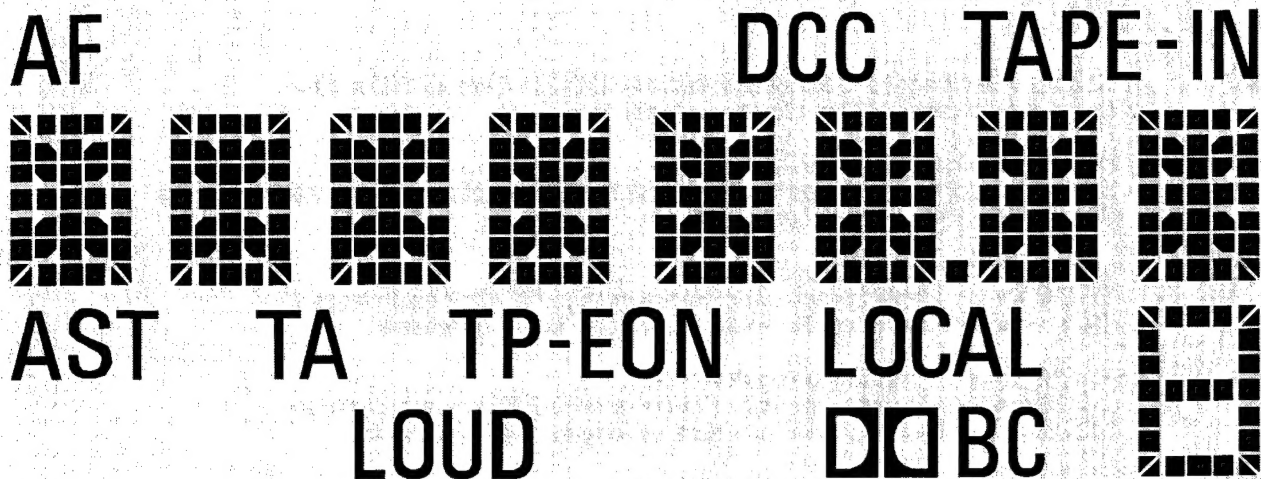
| | |
|------------------------|----------------------------|
| Number of tracks: | 2x2 |
| Tape speed: | 4,75 cm/s |
| Winding time: | 100 s (C60) |
| Frequency response: | 40 - 14.000 Hz |
| Wow and flutter: | 0.2% (IEC 386 / DIN 45507) |
| S/N ratio (DOLBY OFF): | FE: 48 dB (weighted) |
| | CR: 53 dB (weighted) |

AMPLIFIER

| | |
|---------------------|--------------------------------|
| Output: | 4 x 4.5 W sinus (at 10% THD) |
| Bass: | +/- 12 dB (100 Hz), 2 dB steps |
| Treble: | +/- 12 dB (10 KHz), 2 dB steps |
| Channel separation: | > 30 dB |
| Telefonmute: | > -40 dB |

CONTROLS

| | |
|---|--|
|  | Retrac handle release |
| POWER  | set on/off |
| EJECT  | <i>Short press:</i> Changes the play direction of a DCC or Compact Cassette <i>Long press:</i> Ejects DCC or Compact Cassette |
| NEXT  | <i>Radio operation:</i> Search tuning upwards <i>DCC/Compact Cassette operation:</i> Selects next tracks of a DCC/Compact Cassette <i>CD operation:</i> Next track of actual disc |
|  | <i>Radio operation:</i> Manual tuning upwards <i>DCC/Compact Cassette operation:</i> Fast winding DCC/Compact Cassette <i>CD operation:</i> Fast forward playback as long as key is depressed |
|  | <i>Radio operation:</i> Manual tuning downwards <i>DCC/Compact Cassette operation:</i> Fast rewind DCC/Compact Cassette <i>CD operation:</i> Fast backward playback as long as key is depressed |
| PREV  | <i>Radio operation:</i> Search tuning downwards <i>DCC/Compact Cassette operation:</i> Selects previous tracks of a DCC/Compact Cassette <i>CD operation:</i> Previous track of actual disc |
|  | Volume, Bass or Treble down; Balance to left; Fader to rear |
|  | Volume, Bass or Treble up; Balance to right; Fader to front |
| BASS BAL | Bass/Balance selector |
| TREB FAD | Treble/Fader selector |
| MUTE | Audio Mute; interrupts playback of DCC, Compact Cassette or CD (pause) |
| 1  ... 6 | <i>Radio operation:</i> Station presets <i>CD operation:</i> Disc selection |
| 1  | Dolby Noise Reduction B or C type (only for Compact Cassette) |
| LOUD RST | <i>Short press:</i> Loudness <i>Long press:</i> Audio reset |
| DISP | <i>Radio operation:</i> Shows the frequency and the selected wave band instead of the station-name <i>DCC operation:</i> Selects the DCC text mode (only with pre-recorded DCC's) <i>CD operation:</i> Shows total number of tracks and total play time of actual disc |
| LOC | Selector for strong (local) stations |
| TA | <i>Short press:</i> Traffic information/announcement <i>Long press:</i> Skips a traffic message |
| BAND RND | <i>Radio operation:</i> Selects the desired wave band (FM1, FM2, FM3, MW, LW, SW) <i>CD operation:</i> Random track selection of actual disc <i>Long press:</i> Enters the 'INIT' mode |
| AST SCAN | <i>Radio operation:</i> Auto-Store to program the six strongest stations of the current reception area <i>CD operation:</i> 10 sec.- playback of each track of actual disc |
| SRC | Selects source (Radio, DCC/Compact Cassette or CD-Changer) |



DISPLAY INDICATIONS

| | |
|----------------------------|--|
| AF | Tuned station broadcasts RDS information with Alternative Frequencies |
| DCC | A Digital Compact Cassette is in the cassette deck |
| TAPE-IN | A Compact Cassette is in the cassette deck <i>Radio operation:</i> Preset station (1 out of 6) is selected <i>DCC/Compact Cassette operation:</i> Indicates side A or B of the DCC/Compact Cassette |
| LOCAL | Searches for strong (local) stations only Dolby Noise Reduction B or C is switched on (only Compact Cassette) |
| TP TP-EON | Traffic Program: Indicates that the station broadcasts traffic information A Traffic message is received via Enhanced Other Networks |
| LOUD | Loudness is switched on |
| TA | Traffic Announcement mode is switched on Radio operation: Wave band and frequency or (FM only) the station name Audio adjustment: Shows the current settings of Bass, Balance, Treble or Fader DCC operation: Shows track number and elapsed time or text mode(only prerecorded DCC's) INIT mode: Shows initialization parameters and their settings |
| AST | Auto-Store band chosen (on FM3) |

INIT MODE

Select INIT MODE by pressing the BAND key for at least 3 seconds, until a bleep is heard.

The following parameters can be changed when the set is in INIT MODE:

1. Illumination colour

After entering INIT MODE, the display shows 'COLOR'.
Toggle between 'green' or 'orange' colour with the $\hat{+}$ / $\hat{-}$ keys.

2. Viewing angle

After entering INIT MODE, select the 'VIEW' parameter with the \blacktriangleleft PREV or NEXT \blacktriangleright keys.
The display should show 'VIEW 0'.
Select the viewing angle between -1 and 2 with the $\hat{+}$ / $\hat{-}$ keys for best legibility of the display.

3. AF mode

After entering INIT MODE, select the 'AF' parameter with the \blacktriangleleft PREV or NEXT \blacktriangleright keys.
The display should show e.g. 'AF ON'.
Select between 'AF ON' or 'AF OFF' with the $\hat{+}$ or $\hat{-}$ keys.

If you want to store an RDS station without automatic retuning, you have to do the following:
Tune to the desired station.
After entering INIT MODE, select 'AF OFF'.
Leave the INIT MODE (see below) and store this station.

4. AM wave bands on/off

If you don't want to use the AM wave bands (MW, LW and SW), those bands can be switched off.
After entering INIT MODE, select the 'AM' parameter with the \blacktriangleleft PREV or NEXT \blacktriangleright keys.
The display should show e.g. 'AM ON'.
Select between 'AM ON' and 'AM OFF' with the $\hat{+}$ or $\hat{-}$ keys.
When you select 'AM OFF', you can choose only between FM1, FM2 and FM3.

To leave the INIT MODE, press briefly the BAND key.

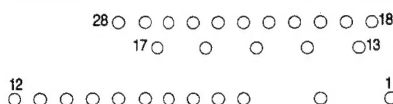
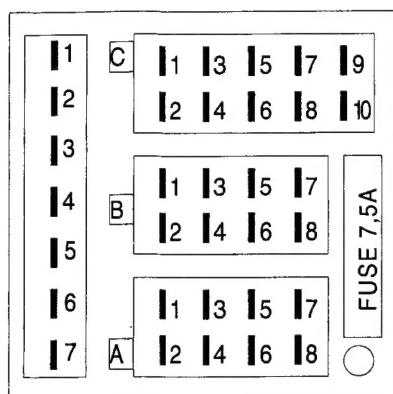
The INIT MODE will be left automatically, when no keys are depressed within 10 seconds.

- NOTE:** For informations about how to use the set see the 'Operating Instructions'.
- NOTE:** The handling of flat pack IC's is described in Service Information A86-100, dated 1986-07-01.
- NOTE:** Switch off power supply before connecting or disconnecting the cassette deck.
- NOTE:** Extension cables for front unit and cassette deck are NOT available as serviceparts.
You can build these by using the coded sockets and plugs.
- NOTE:** Single buttons of the ornamental plate are NOT available.
If there is an absolute need for single buttons you can take apart a complete delivered plate.
- NOTE:** For more information about the RDS feature use the 'computer based training course RDS' which is available at Philips Consumer Service.

Contact: Philips Consumer Electronics
Philips International Support Centre
Building SBP6
NL 5600 MD Eindhoven

tlx routing indicator: NLMEVAB
FAX: + 31 40 73 35 53

CONNECTORBLOCK 22DC811+22DC821



| | | | |
|-------------------|------|-------------------------|------|
| D1: SWITCHED + | > 5 | D5: LINE OUT RR | > 9 |
| D2: REMOTE RETURN | > 12 | D6: LINE OUT FL | > 10 |
| D3: SIGNAL GND | > 7 | D7: LINE OUT RL | > 11 |
| D4: LINE OUT FR | > 8 | | |
| C1: GND | > 28 | C6: GND | > 6 |
| C2: D2B+ (DC821) | > 27 | C7: SWITCHED + | > 16 |
| C3: D2B- (DC821) | > 23 | C8: EXT.IN R (DC821) | > 26 |
| C4: NC | | C9: EXT.IN L (DC821) | > 3 |
| C5: PERM.+ | > 17 | C10: EXT.IN GND (DC821) | > 25 |
| B1: RR+ | > 22 | B5: FL+ | > 13 |
| B2: RR- | > 24 | B6: FL- | > 19 |
| B3: FR+ | > 21 | B7: RL+ | > 19 |
| B4: FR- | > 22 | B8: RL- | > 14 |
| A1: TEL.MUTE | > 15 | A5: SWITCHED + | > 5 |
| A2: GND | > 18 | A6: EXT.ILL. | > 2 |
| A3: NC | | A7: IGN.KEY+ (FUSE) | > 1 |
| A4: PERM.+ | > 4 | A8: GND | > 18 |

Key- and Display-test, Romcode version front μ C

- Separate the front unit assy from the set.
- Connector 1801: connect pin 1 + 10 to ground and pin 4 to 5 V - Display shows 'KEY TEST'.

Key-test

When pushing the buttons the concerned indication must be displayed.

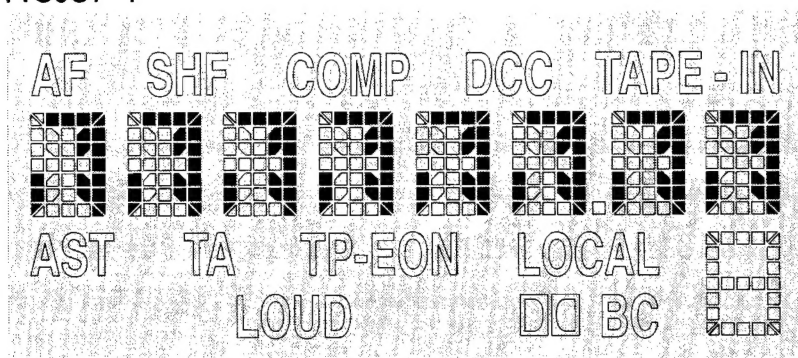
Display-test

- Hold preset 1 - figure Preset 1 must be displayed
- Hold preset 2 - all display-segments are blanked
- Hold preset 3 - figure Preset 2 must be displayed

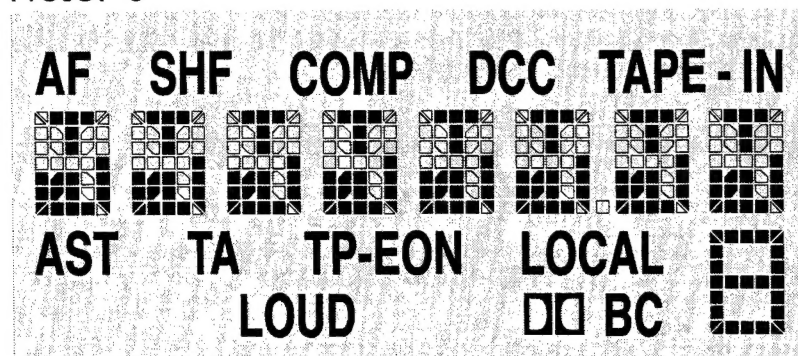
Romcode version

- Hold preset 4 - the software version of the front μ C must be displayed (e.g. RC 04)













Preset 1



Preset 3




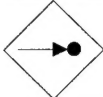

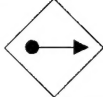






Checks 22DC811 + 22DC821

| Check | Band |  |  |  |  |  |
|---------------------------|--|---|---|---|---|---|
| Varicap-voltage | AM FM | | | <div>144 KHz</div> <div>6200 KHz</div> <div>87,5 MHz</div> <div>108 MHz</div> | IC 7251 PIN 15 FM 1008 PIN 15 | > 2,2 V < 6,0 V > 1,0 V < 6,0 V |
| Demodulated AM - level | AM | 990 KHz, 10 mV 1 KHz, 30% AM |  | <div></div> | IC 7201 PIN 12 | 350 +/- 100 mV |
| Demodulated FM - level | FM | 93,0 MHz, 1 mV $\Delta f = 22,5$ KHz f mod = 1 KHz |  | <div></div> | FM 1008 PIN 2 | 160 mV |
| | | 93,0 MHz, 1 mV $\Delta f = 6,75$ KHz f mod = 19 KHz | | | | 45 mV |
| | | 93,0 MHz, 1 mV $\Delta f = 3,75$ KHz f mod = 57 KHz | | | | 20 mV |
| S/N ratio | FM | 93,0 MHz, 1 mV $\Delta f = 22,5$ KHz f mod = 1 KHz |  | <div></div>  | Connectorblock Section B PIN 3 + PIN 5 | 1,4 V => Referencelevel (dB) |
| | 93,0 MHz, 1 mV $\Delta f = 22,5$ KHz unmodulated | Referencelevel > - 50 dB | | | | |
| | AM | 990 KHz, 2mV 30 % mod., 1KHz | | | | 1,4 V => Referencelevel (dB) |
| | 990 KHz, 2mV unmodulated | Referencelevel > - 48 dB | | | | |
| Wide band AGC switch | AM | 990 KHz, 2mV without modulation |  | <div></div> | IC 7201 PIN 1 | V1 ~ 6,5 V |
| | 990 KHz, 200mV without modulation | V2 ~ 7,0 V (V2 - V1 > 0,5 V) | | | | |
| FM - search - sensitivity | FM | 94,1 MHz, 160 μ V $\Delta f = 22,5$ KHz f mod = 1 KHz |  | LO - Search tuning | | tuning stop after 2. run |
| | | LO - Search tuning | | tuning stop after 1. run | | |
| | | DX - Search tuning | | no tuning stop | | |
| | | DX - Search tuning | | tuning stop after 1. run | | |
| AM - search-sensitivity | AM | 990 KHz, 240 μ V 1 KHz, 30% AM |  | LO - Search tuning | | tuning stop after 2. run |
| | | LO - Search tuning | | tuning stop after 1. run | | |
| | | DX - Search tuning | | no tuning stop | | |
| | | DX - Search tuning | | tuning stop after 1. run | | |

CHECK LOW VOLTAGE CONTROL CIRCUIT

- 1: Supply voltage 14.4 V
Set switched on
Pos. 7701, pin 7 = 4.7 V +/- 400 mV
- 2: Supply voltage 8.3 V +/- 900 mV
Set switches off automatically
Pos. 7701, pin 7 = 0.5 V +/- 500 mV
- 3: Supply voltage 14.4 V
Set switches on
Pos. 7701, pin 7 = 4.7 V +/- 400 mV

Adjustments 22DC811 + 22DC821

| Adjustment | Band |  |  |  |  |  |
|---|------|---|---|---|---|---|
| α - 3 dB | FM | 94,1 MHz, 1 mV $\Delta f = 22,5$ KHz $f_{mod} = 1$ KHz |  |  | Connectorblock Section B PIN 3 + PIN 5 | 1,4 V => Referencelevel (dB) |
| | | 94,1 MHz, 7 μ V $\Delta f = 22,5$ KHz $f_{mod} = 1$ KHz | | R 3105 | | Referencelevel - 3 dB |
| 10 dB Channel-separation | FM | 94,1 MHz, 120 μ V $\Delta f = 22,5$ KHz $f_{mod} = 1$ KHz (right channel only) Stereo-Pilot 10% |  | R 3630 | Connectorblock Section B PIN 3 <-> PIN 5 | 10 dB (+/- 1 dB) |
| Channel - separation maximum | FM | 94,1 MHz, 10 mV $\Delta f = 22,5$ KHz $f_{mod} = 1$ KHz (right channel only) Stereo-Pilot 10% |  | R 3608 | Connectorblock Section B PIN 3 <-> PIN 5 | max. (ca. 34 dB) |
| Check α - 3 dB again and adjust if necessary | | | | | | |
| Noise - detector | FM | 98,0 MHz, 1 mV $\Delta f = 75$ KHz $f_{mod} = 40$ KHz |  | R 3426 | IC 7420 PIN 14 | 850 +/- 50 mV (AC) |

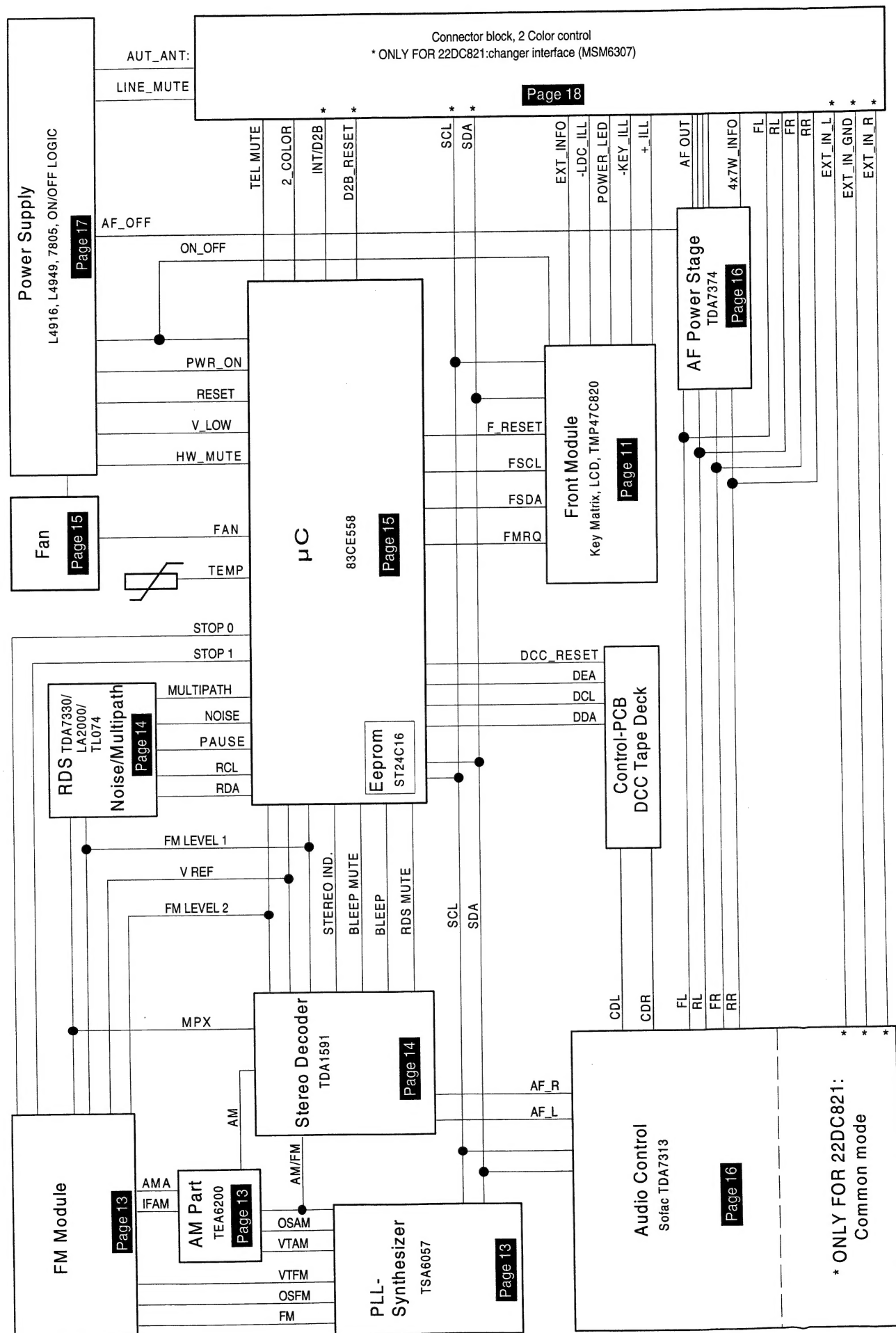
Do not adjust coils 5210 and 5228 (AM-PART), because they are correctly preadjusted by supplier !

! NOTE

FM- and AM- search sensitivities are only adjustable with a special equipment via software.
If you get sets with search sensitivities out of specification, send them to factory-service in Wetzlar until further notice.

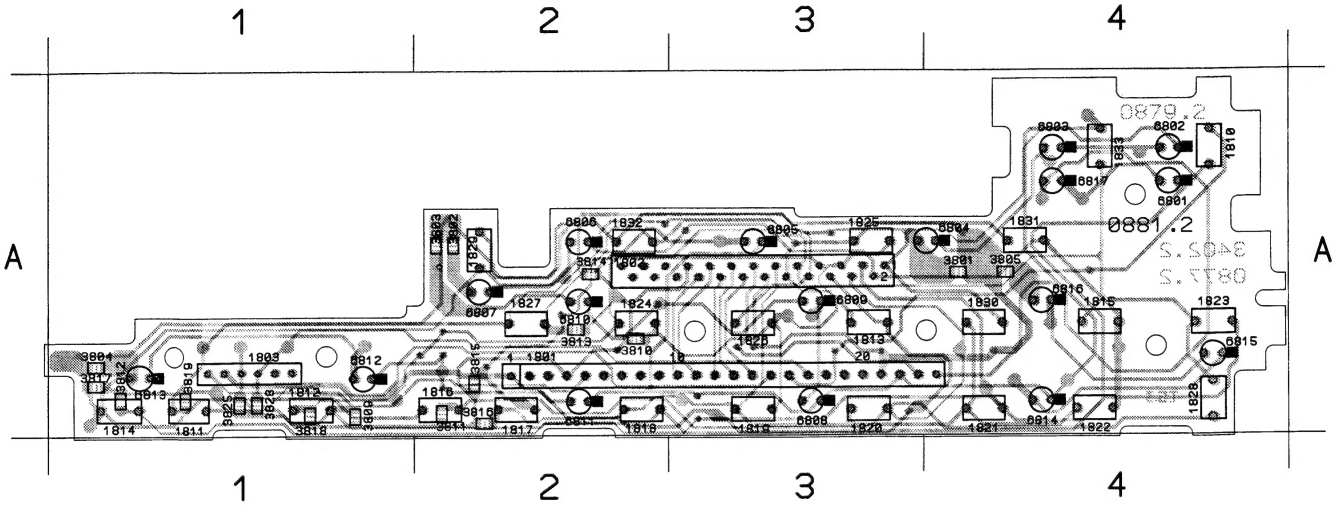
Philips Apparatefabrik Wetzlar
Department SP-CS
Philipsstrasse 1
D - 35576 Wetzlar
GERMANY

WIRING DIAGRAM 22DC811 + 22DC821



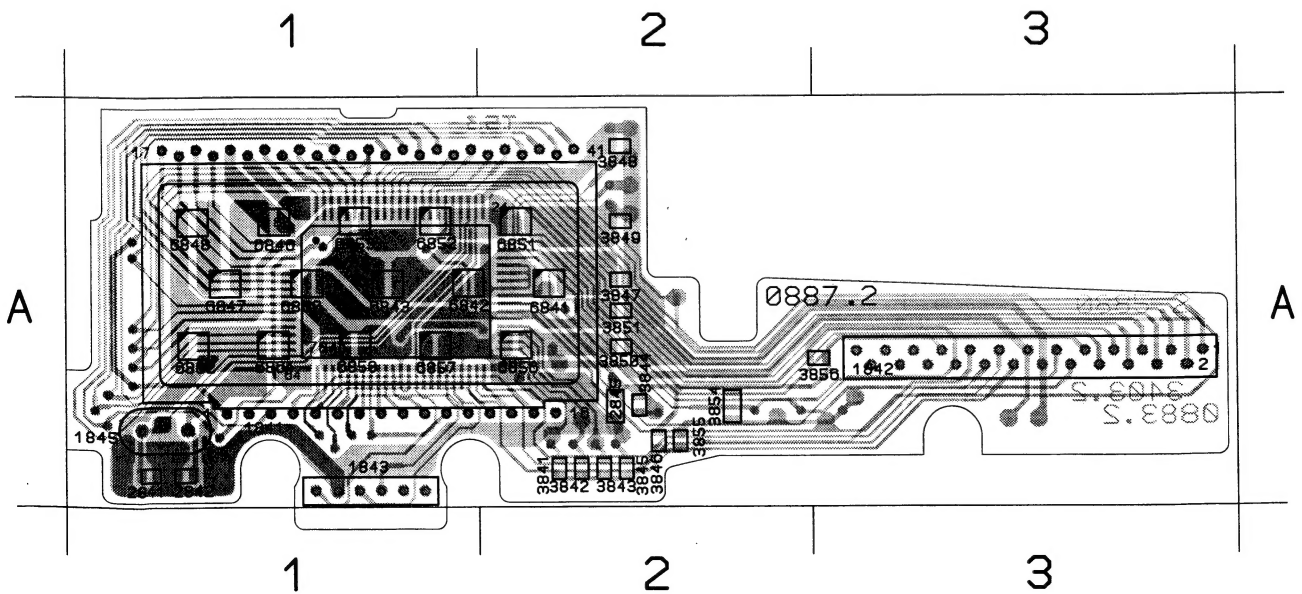
SWITCH PWB

| | | | | | | | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1901 A 3 | 1912 A 1 | 1917 A 2 | 1922 A 4 | 1927 A 2 | 1932 A 2 | 1904 A 1 | 1912 A 1 | 1917 A 1 | 0801 A 4 | 0806 A 2 | 0811 A 2 | 0816 A 4 |
| 1902 A 3 | 1913 A 3 | 1918 A 2 | 1923 A 4 | 1928 A 4 | 1933 A 4 | 1905 A 4 | 1913 A 2 | 1918 A 1 | 0802 A 4 | 0807 A 2 | 0812 A 1 | 0817 A 4 |
| 1903 A 1 | 1914 A 1 | 1919 A 3 | 1924 A 2 | 1929 A 2 | 1934 A 4 | 1906 A 1 | 1914 A 2 | 1919 A 1 | 0803 A 4 | 0808 A 3 | 0813 A 1 | |
| 1910 A 4 | 1915 A 4 | 1920 A 3 | 1925 A 3 | 1930 A 4 | 1902 A 2 | 1910 A 2 | 1915 A 2 | 1920 A 1 | 0804 A 4 | 0809 A 3 | 0814 A 4 | |
| 1911 A 1 | 1916 A 2 | 1921 A 4 | 1926 A 3 | 1931 A 4 | 1903 A 2 | 1911 A 2 | 1916 A 1 | 1921 A 1 | 0805 A 3 | 0810 A 2 | 0815 A 4 | |

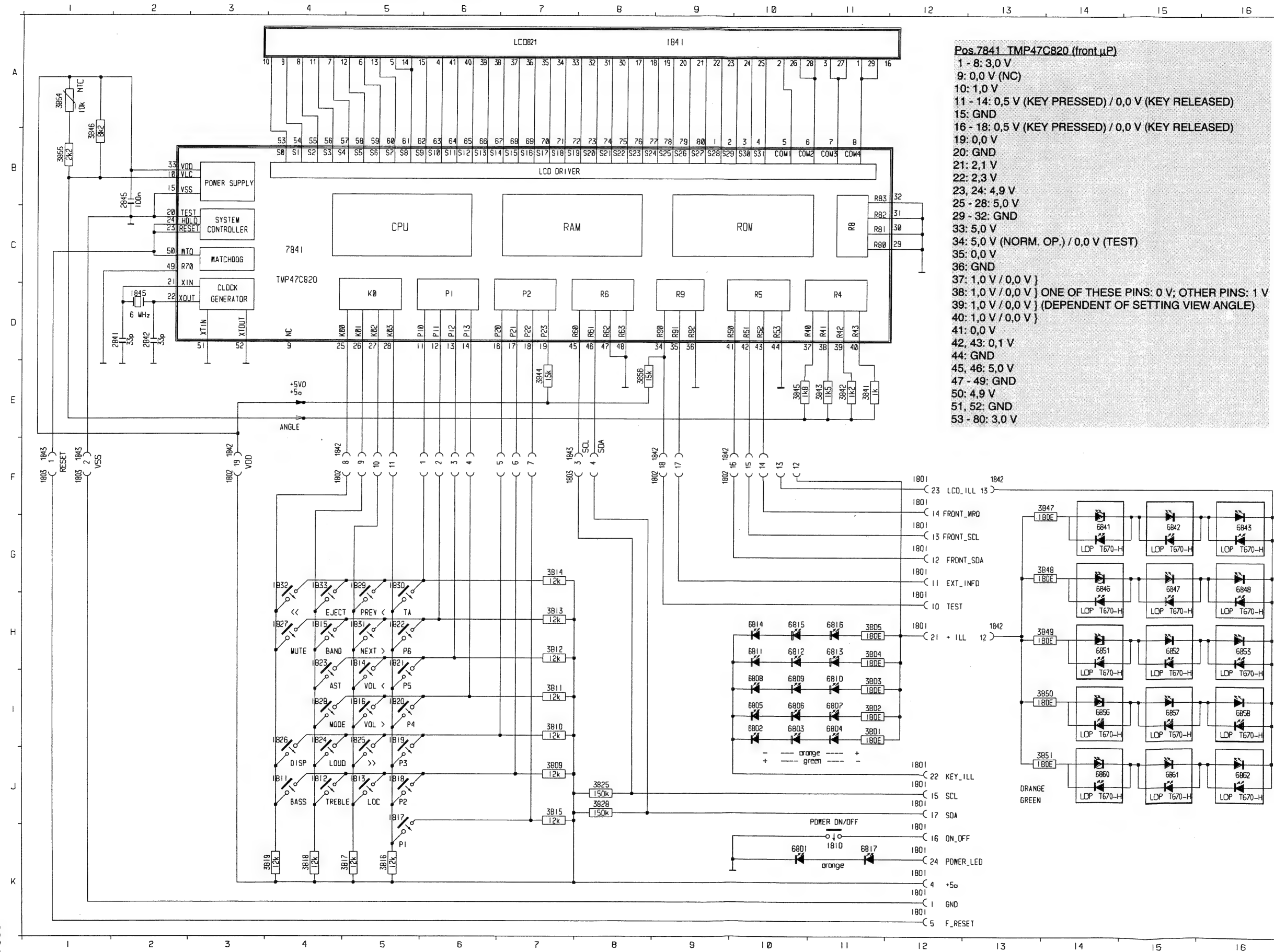


LCD PWB

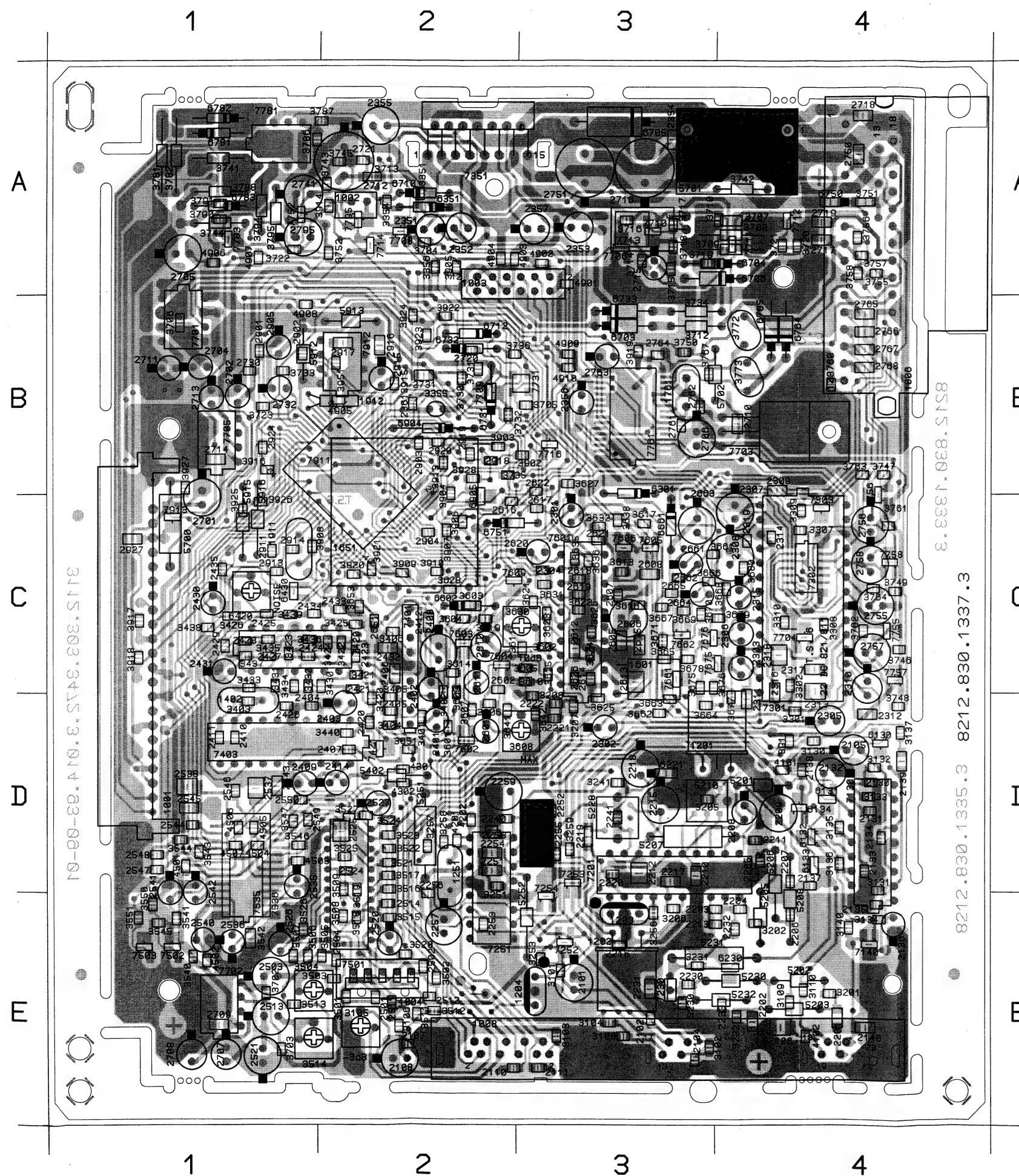
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|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| 1841 | A 1 | 2841 | A 1 | 3842 | A 2 | 3846 | A 2 | 3850 | A 2 | 3856 | A 3 | 6846 | A 1 | 6852 | A 1 | 6858 | A 1 | 7841 | A 1 |
| 1842 | A 3 | 2842 | A 1 | 3843 | A 2 | 3847 | A 2 | 3851 | A 2 | 6841 | A 2 | 6847 | A 1 | 6853 | A 1 | 6860 | A 1 | | |
| 1843 | A 1 | 2845 | A 2 | 3844 | A 2 | 3848 | A 2 | 3854 | A 2 | 6842 | A 1 | 6848 | A 1 | 6856 | A 2 | 6861 | A 1 | | |
| 1845 | A 1 | 3841 | A 2 | 3845 | A 2 | 3849 | A 2 | 3855 | A 2 | 6843 | A 1 | 6851 | A 2 | 6857 | A 1 | 6862 | A 1 | | |



FRONT CIRCUIT (SWITCH + LCD)

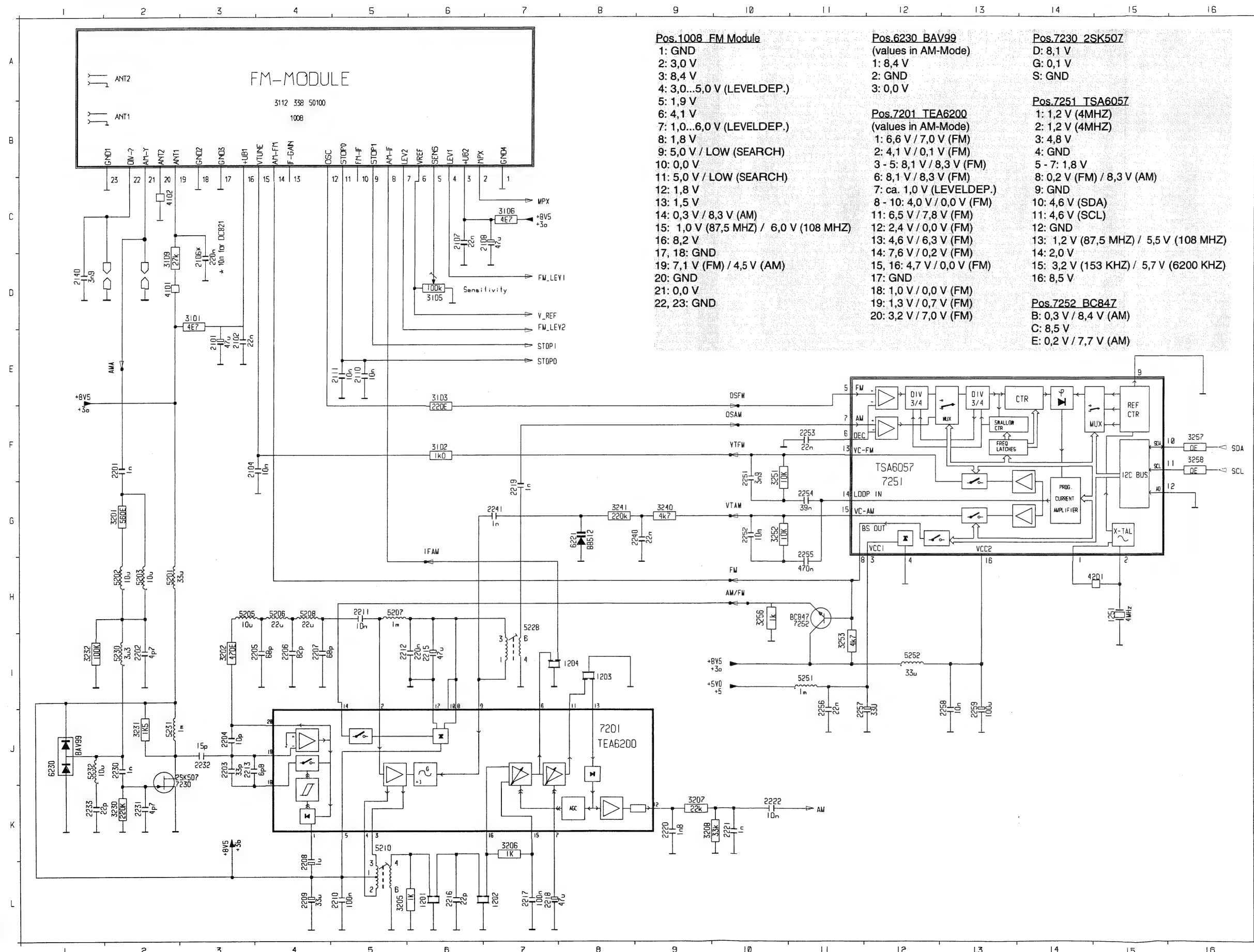


| | | | | |
|---|------|-----|------|-----|
| A | 1800 | K12 | 6801 | K10 |
| | 1801 | K12 | 6802 | I10 |
| | 1801 | K12 | 6803 | I10 |
| | 1801 | H12 | 6804 | I11 |
| | 1801 | G12 | 6805 | I10 |
| | 1801 | G12 | 6806 | I10 |
| | 1801 | G12 | 6807 | I11 |
| | 1801 | F12 | 6808 | I10 |
| | 1801 | J12 | 6809 | I10 |
| | 1801 | J12 | 6810 | I11 |
| B | 1801 | J12 | 6811 | H10 |
| | 1801 | H12 | 6812 | H10 |
| | 1801 | J12 | 6813 | H11 |
| | 1801 | F12 | 6814 | H10 |
| | 1801 | K12 | 6815 | H10 |
| | 1802 | F 4 | 6816 | H11 |
| | 1802 | F 9 | 6817 | K11 |
| | 1802 | F 9 | 6841 | G14 |
| | 1802 | F 3 | 6842 | G15 |
| | 1803 | F 1 | 6843 | G16 |
| C | 1803 | F 1 | 6846 | G14 |
| | 1803 | F 7 | 6847 | G15 |
| | 1810 | K11 | 6848 | G16 |
| | 1811 | J 4 | 6851 | H14 |
| | 1812 | J 4 | 6852 | H16 |
| | 1813 | J 5 | 6853 | H15 |
| | 1814 | H 5 | 6856 | I14 |
| | 1815 | H 4 | 6857 | I15 |
| | 1816 | I 5 | 6858 | I16 |
| | 1817 | J 5 | 6860 | J14 |
| D | 1818 | J 5 | 6861 | J15 |
| | 1819 | I 5 | 6862 | J16 |
| | 1820 | I 5 | 7841 | C 4 |
| | 1821 | H 5 | | |
| | 1822 | H 5 | | |
| | 1823 | H 4 | | |
| | 1824 | I 4 | | |
| | 1825 | I 5 | | |
| | 1826 | I 4 | | |
| | 1827 | H 4 | | |
| E | 1828 | I 4 | | |
| | 1829 | G 5 | | |
| | 1830 | G 5 | | |
| | 1831 | H 5 | | |
| | 1832 | G 4 | | |
| | 1833 | G 4 | | |
| | 1841 | A 9 | | |
| | 1842 | F 4 | | |
| | 1842 | H13 | | |
| | 1842 | F13 | | |
| F | 1842 | F 9 | | |
| | 1842 | F 9 | | |
| | 1842 | F 3 | | |
| | 1843 | F 1 | | |
| | 1843 | F 1 | | |
| | 1843 | F 7 | | |
| | 1845 | D 2 | | |
| | 2841 | D 2 | | |
| | 2842 | D 2 | | |
| | 2845 | B 2 | | |
| G | 3801 | I11 | | |
| | 3802 | I11 | | |
| | 3803 | I11 | | |
| | 3804 | H11 | | |
| | 3805 | H11 | | |
| | 3809 | J 7 | | |
| | 3810 | I 7 | | |
| | 3811 | I 7 | | |
| | 3812 | H 7 | | |
| | 3813 | H 7 | | |
| H | 3814 | G 7 | | |
| | 3815 | J 7 | | |
| | 3816 | K 5 | | |
| | 3817 | K 5 | | |
| | 3818 | K 4 | | |
| | 3819 | K 4 | | |
| | 3825 | J 8 | | |
| | 3828 | J 8 | | |
| | 3841 | E11 | | |
| | 3842 | E11 | | |
| I | 3843 | E11 | | |
| | 3844 | E 7 | | |
| | 3845 | E10 | | |
| | 3846 | B 1 | | |
| | 3847 | F14 | | |
| | 3848 | G14 | | |
| | 3849 | H14 | | |
| | 3850 | I14 | | |
| | 3851 | J14 | | |
| | 3854 | A 1 | | |
| J | 3855 | B 1 | | |
| | 3856 | E 8 | | |



| | | | | | | | | | | | | | | | | | | | | | | | | | | |
|------|---|---|------|---|---|------|---|---|------|---|---|------|---|---|------|---|---|------|---|---|------|---|---|------|---|---|
| 1001 | A | 1 | 2305 | D | 4 | 2548 | D | 1 | 2915 | B | 2 | 3439 | C | 1 | 3665 | C | 3 | 3904 | B | 2 | 6301 | B | 3 | 7781 | A | 1 |
| 1002 | A | 2 | 2306 | C | 4 | 2549 | D | 1 | 2916 | B | 2 | 3440 | D | 2 | 3666 | C | 3 | 3905 | A | 2 | 6351 | A | 2 | 7783 | A | 1 |
| 1003 | B | 2 | 2307 | C | 4 | 2550 | D | 1 | 2917 | B | 2 | 3501 | E | 2 | 3667 | C | 3 | 3906 | C | 2 | 6420 | C | 1 | 7795 | A | 2 |
| 1004 | E | 2 | 2308 | C | 4 | 2601 | D | 2 | 2918 | B | 2 | 3502 | E | 2 | 3668 | C | 4 | 3907 | C | 2 | 6430 | C | 1 | 7911 | B | 2 |
| 1006 | A | 4 | 2309 | B | 4 | 2602 | C | 2 | 2919 | B | 2 | 3503 | E | 2 | 3669 | C | 3 | 3908 | C | 1 | 6802 | C | 2 | 7912 | B | 2 |
| 1008 | E | 3 | 2310 | C | 4 | 2605 | C | 3 | 2920 | B | 2 | 3504 | E | 1 | 3670 | C | 3 | 3909 | C | 2 | 6661 | C | 3 | 7913 | C | 1 |
| 1201 | D | 4 | 2311 | D | 4 | 2606 | C | 3 | 2924 | B | 1 | 3505 | E | 2 | 3671 | C | 3 | 3910 | C | 2 | 6703 | B | 3 | | | |
| 1202 | E | 3 | 2312 | D | 4 | 2607 | C | 3 | 2927 | C | 1 | 3506 | E | 1 | 3675 | C | 3 | 3911 | D | 4 | 6704 | A | 3 | | | |
| 1203 | E | 3 | 2313 | C | 4 | 2608 | C | 3 | 3101 | E | 3 | 3507 | E | 1 | 3676 | C | 3 | 3913 | B | 2 | 6705 | A | 3 | | | |
| 1204 | E | 3 | 2314 | C | 4 | 2610 | C | 2 | 3102 | E | 3 | 3508 | E | 2 | 3677 | D | 4 | 3914 | A | 2 | 6706 | A | 3 | | | |
| 1251 | D | 2 | 2315 | C | 4 | 2611 | C | 2 | 3103 | E | 3 | 3509 | D | 2 | 3678 | C | 3 | 3915 | B | 2 | 6710 | A | 2 | | | |
| 1402 | D | 1 | 2316 | C | 4 | 2612 | C | 3 | 3104 | E | 3 | 3511 | E | 2 | 3679 | C | 4 | 3916 | B | 1 | 6712 | B | 2 | | | |
| 1601 | C | 3 | 2317 | C | 4 | 2613 | C | 3 | 3105 | E | 2 | 3512 | E | 2 | 3680 | C | 4 | 3917 | C | 1 | 6731 | B | 2 | | | |
| 1651 | C | 2 | 2318 | C | 4 | 2614 | C | 3 | 3106 | E | 2 | 3513 | E | 1 | 3702 | E | 1 | 3918 | C | 1 | 6732 | B | 2 | | | |
| 1761 | B | 3 | 2319 | C | 4 | 2615 | C | 3 | 3108 | E | 3 | 3514 | E | 1 | 3703 | E | 1 | 3919 | B | 3 | 6733 | B | 3 | | | |
| 1911 | C | 1 | 2351 | A | 2 | 2616 | C | 2 | 3109 | E | 4 | 3515 | E | 2 | 3704 | A | 2 | 3920 | C | 2 | 6750 | A | 4 | | | |
| 1912 | B | 1 | 2352 | A | 2 | 2617 | C | 3 | 3110 | E | 4 | 3516 | D | 2 | 3705 | B | 3 | 3921 | C | 2 | 6751 | C | 2 | | | |
| 2101 | E | 3 | 2353 | A | 3 | 2618 | C | 3 | 3130 | D | 4 | 3517 | D | 2 | 3706 | B | 1 | 3922 | B | 2 | 6764 | B | 4 | | | |
| 2102 | E | 3 | 2354 | A | 3 | 2619 | C | 3 | 3131 | D | 4 | 3518 | E | 2 | 3707 | A | 4 | 3923 | B | 2 | 6765 | B | 4 | | | |
| 2104 | E | 3 | 2355 | A | 2 | 2620 | C | 3 | 3132 | D | 4 | 3519 | D | 2 | 3708 | A | 4 | 3924 | B | 2 | 6781 | A | 1 | | | |
| 2105 | D | 4 | 2356 | B | 3 | 2621 | C | 3 | 3133 | D | 4 | 3520 | E | 2 | 3709 | A | 4 | 3925 | C | 1 | 6782 | A | 1 | | | |
| 2106 | E | 4 | 2357 | A | 3 | 2622 | B | 3 | 3134 | E | 4 | 3521 | D | 2 | 3710 | A | 4 | 3926 | C | 1 | 6783 | A | 1 | | | |
| 2107 | E | 2 | 2361 | B | 2 | 2626 | C | 3 | 3135 | D | 4 | 3522 | D | 2 | 3712 | B | 3 | 3927 | B | 1 | 6904 | B | 2 | | | |

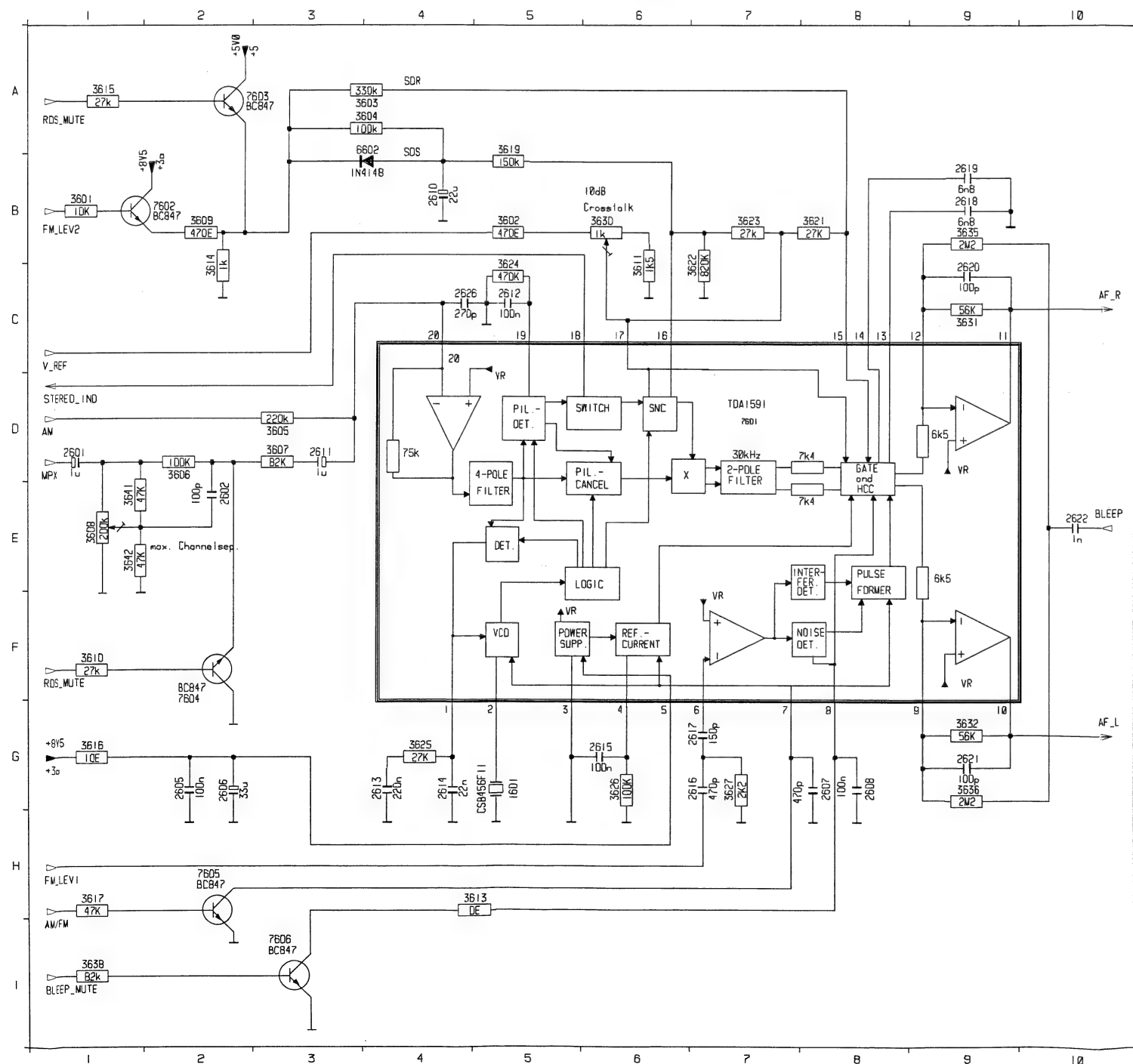
FM MODUL / AM PART / PLL SYNTHESIZER



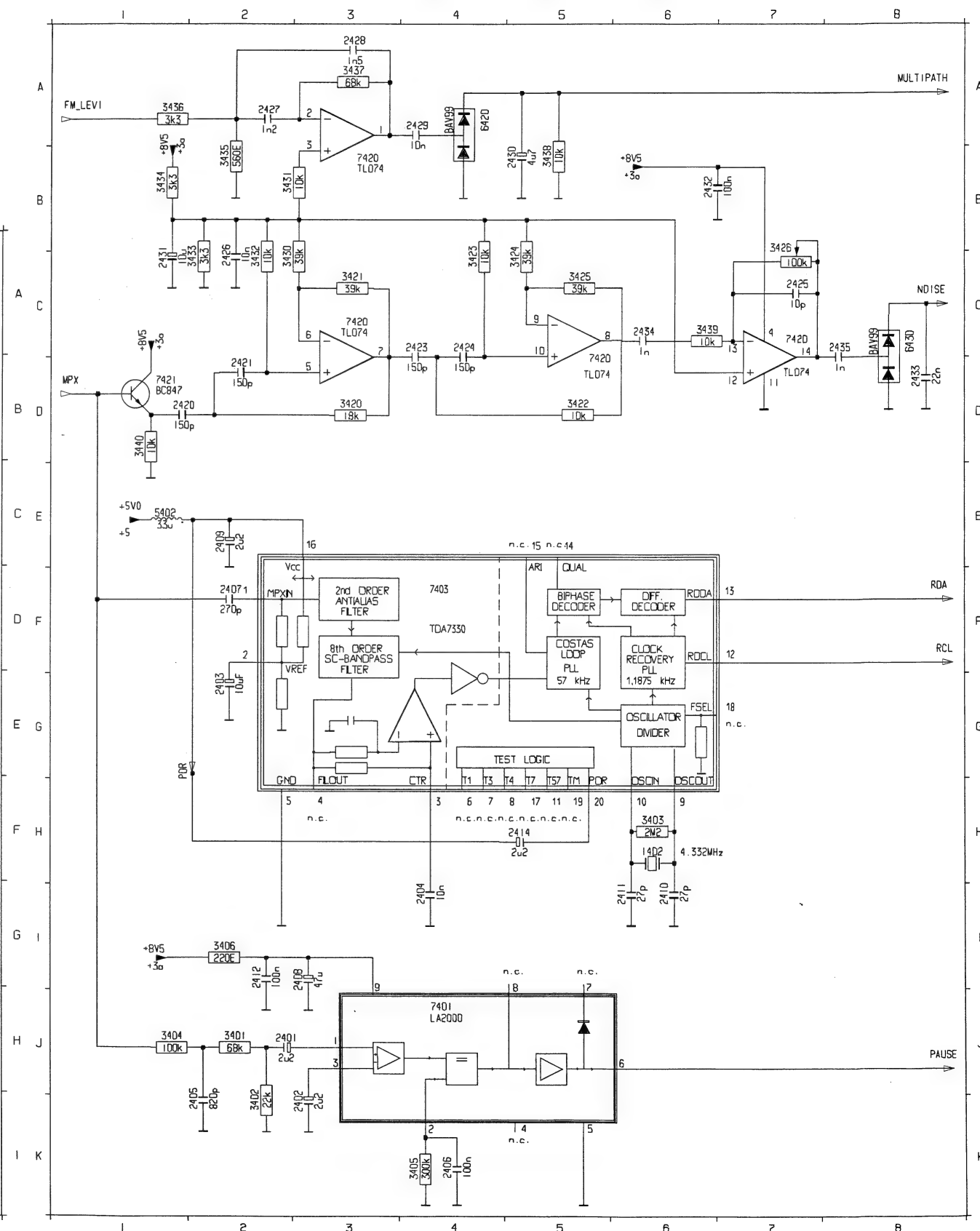
| | | | |
|-------|-----|------|-----|
| 1008 | B 4 | 7230 | J 2 |
| 1201 | L 6 | 7251 | G12 |
| 1202 | L 7 | 7252 | H11 |
| 1203 | I 8 | | |
| 1204 | I 8 | | |
| 1251 | H15 | | |
| 2101 | E 3 | | |
| 2102 | E 3 | | |
| 2104 | F 3 | | |
| 2106x | D 3 | | |
| 2107 | C 6 | | |
| 2108 | C 7 | | |
| 2110 | E 5 | | |
| 2111 | E 5 | | |
| 2140 | D 1 | | |
| 2201 | F 2 | | |
| 2202 | I 2 | | |
| 2203 | J 3 | | |
| 2204 | J 3 | | |
| 2205 | I 4 | | |
| 2206 | I 4 | | |
| 2207 | I 4 | | |
| 2208 | L 4 | | |
| 2209 | L 4 | | |
| 2210 | L 5 | | |
| 2211 | H 5 | | |
| 2212 | I 5 | | |
| 2213 | J 3 | | |
| 2215 | I 6 | | |
| 2216 | L 6 | | |
| 2217 | L 7 | | |
| 2218 | L 7 | | |
| 2219 | G 7 | | |
| 2220 | K 9 | | |
| 2221 | K10 | | |
| 2222 | K10 | | |
| 2230 | J 2 | | |
| 2231 | K 2 | | |
| 2232 | J 3 | | |
| 2233 | K 1 | | |
| 2240 | G 9 | | |
| 2241 | G 7 | | |
| 2251 | F10 | | |
| 2252 | G10 | | |
| 2253 | F11 | | |
| 2254 | G11 | | |
| 2255 | H11 | | |
| 2256 | J11 | | |
| 2257 | J11 | | |
| 2258 | J13 | | |
| 2259 | J13 | | |
| 3101 | D 3 | | |
| 3102 | F 6 | | |
| 3103 | E 6 | | |
| 3105 | D 6 | | |
| 3106 | C 7 | | |
| 3109 | D 2 | | |
| 3201 | G 2 | | |
| 3202 | I 3 | | |
| 3205 | L 5 | | |
| 3206 | K 7 | | |
| 3207 | K 9 | | |
| 3208 | K 9 | | |
| 3230 | K 2 | | |
| 3231 | J 2 | | |
| 3232 | I 1 | | |
| 3240 | G 9 | | |
| 3241 | G 8 | | |
| 3251 | F10 | | |
| 3252 | G10 | | |
| 3253 | I11 | | |
| 3256 | H10 | | |
| 3257 | F16 | | |
| 3258 | F16 | | |
| 4101 | D 2 | | |
| 4102 | C 2 | | |
| 4201 | H15 | | |
| 5201 | H 2 | | |
| 5202 | H 2 | | |
| 5203 | H 2 | | |
| 5205 | H 3 | | |
| 5206 | H 4 | | |
| 5207 | H 5 | | |
| 5208 | H 4 | | |
| 5210 | K 5 | | |
| 5228 | H 7 | | |
| 5230 | I 2 | | |
| 5231 | J 2 | | |
| 5232 | J 1 | | |
| 5251 | I11 | | |
| 5252 | I12 | | |
| 6221 | G 8 | | |
| 6230 | J 1 | | |
| 7201 | J 8 | | |

| | | |
|--------------------------|----------------------------|----------------------------|
| <u>Pos.7601 TDA1591</u> | <u>Pos.7602 BC847</u> | <u>Pos.7605 BC847</u> |
| 1: 4,6 V | B: 1,0...6,0 V (LEVELDEP.) | B: 0,3 V |
| 2: 4,3 V | C: 8,4 V | C: 2,3 V |
| 3: GND | E: 0,0...5,0 V (LEVELDEP.) | E: GND |
| 4: 3,0 V | | |
| 5: 8,4 V | <u>Pos.7603 BC847</u> | <u>Pos.7606 BC847</u> |
| 6: 2,2 V | B: 0,1 V / 4 V (MUTE) | B: 0,5 V |
| 7: 2,2 V / 0,0 V (AM) | C: 5,0 V | C: 4,4...6,3 V (LEVELDEP.) |
| 8: 6,3 V | E: 2,4 V / 3,4 V (MUTE) | E: GND |
| 9 - 14: 3,8 V | | |
| 15 - 17: 2,8 V | <u>Pos.7604 BC847-40</u> | |
| 18: 5,0 V / 0,0 V (MONO) | B: 0,1 V / 0,7 V (MUTE) | |
| 19: 0,5 V | C: GND | |
| 20: 3,0 V | E: 0,0 V | |

| | | | | | | | | | | | | | | | | | |
|------|-----|------|-----|------|------|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| 1601 | G 5 | 2610 | B 4 | 2617 | G 7 | 3601 | B 1 | 3608 | E 1 | 3616 | G 1 | 3625 | G 4 | 3636 | G 9 | 7603 | A 2 |
| 2601 | D 1 | 2611 | D 3 | 2618 | B 9 | 3602 | B 5 | 3609 | B 2 | 3617 | H 1 | 3626 | G 6 | 3638 | I 1 | 7604 | F 2 |
| 2602 | E 2 | 2612 | C 5 | 2619 | B 9 | 3603 | A 4 | 3610 | F 1 | 3619 | A 5 | 3627 | G 7 | 3641 | E 1 | 7605 | H 2 |
| 2605 | G 2 | 2613 | G 4 | 2620 | C 9 | 3604 | A 4 | 3611 | C 6 | 3621 | B 8 | 3630 | B 6 | 3642 | E 1 | 7606 | I 3 |
| 2606 | G 2 | 2614 | G 4 | 2621 | G 9 | 3605 | D 3 | 3613 | H 5 | 3622 | C 7 | 3631 | C 9 | 6602 | B 4 | | |
| 2607 | G 8 | 2615 | G 6 | 2622 | E 10 | 3606 | D 2 | 3614 | C 2 | 3623 | B 7 | 3632 | G 9 | 7601 | D 7 | | |
| 2608 | G 8 | 2616 | G 7 | 2626 | C 4 | 3607 | D 3 | 3615 | A 1 | 3624 | C 5 | 3635 | B 9 | 7602 | B 2 | | |



| | | | | | | | | | | | | | |
|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|
| 1402 | H 6 | 2409 | E 2 | 2425 | C 7 | 2434 | C 6 | 3421 | C 3 | 3433 | C 2 | 6420 | A 4 |
| 2401 | J 2 | 2410 | I 6 | 2426 | C 2 | 2435 | C 8 | 3422 | D 5 | 3434 | B 1 | 6430 | C 8 |
| 2402 | K 3 | 2411 | I 6 | 2427 | A 2 | 3401 | J 2 | 3423 | C 4 | 3435 | B 2 | 7401 | J 4 |
| 2403 | G 2 | 2412 | I 2 | 2428 | A 3 | 3402 | K 2 | 3424 | C 5 | 3436 | A 1 | 7403 | F 4 |
| 2404 | I 4 | 2414 | H 5 | 2429 | A 4 | 3403 | H 6 | 3425 | C 5 | 3437 | A 3 | 7420 | B 3 |
| 2405 | K 2 | 2420 | D 1 | 2430 | B 5 | 3404 | J 1 | 3426 | B 7 | 3438 | B 5 | 7420 | C 3 |
| 2406 | K 4 | 2421 | D 2 | 2431 | C 1 | 3405 | K 4 | 3430 | C 2 | 3439 | C 6 | 7420 | D 6 |
| 2407 | F 2 | 2423 | C 4 | 2432 | B 6 | 3406 | I 2 | 3431 | B 2 | 3440 | D 1 | 7420 | C 7 |
| 2408 | I 3 | 2424 | C 4 | 2433 | D 8 | 3420 | D 3 | 3432 | C 2 | 5402 | E 1 | 7421 | D 1 |



uC / EEPROM / FAN / DCC CONNECTOR

Pos.6420 BAV99

1: 0,0 V
2: GND
3: 0,0 V

Pos.6430 BAV99

1: 0,0 V
2: GND
3: 0,0 V

Pos.7401 LA2000

1: 1,9 V
2: 7,1 V / 0,0 V (AM)
3: 2,0 V
4: 0,0 V (NC)
5: GND
6: 5,0 V
7: 4,3 V (NC)
8: 3,0 V (NC)
9: 7,5 V

Pos.7403 TDA7330

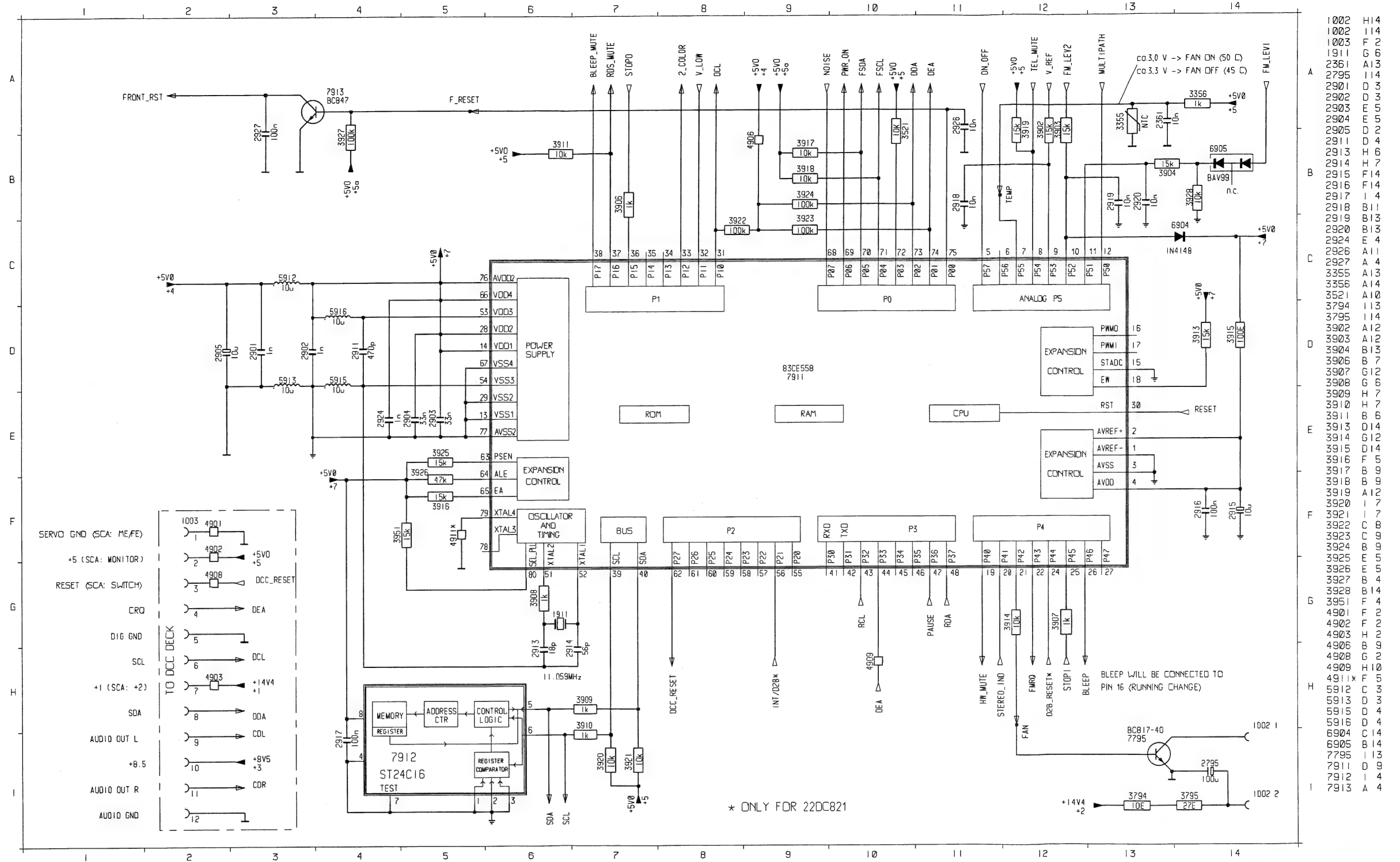
1, 2: 2,2 V
3: 1,5 V
4: 1,5 V (NC)
5: GND
6-8: NC
9, 10: 2,4 V (4,3 MHz)
11: 2,4 V (NC)
12: 2,5 V
13: ca. 1,8 V
14: 5,0 V (NC)
15: 0,1 V (NC)
16: 5,0 V
17: 0,1 V (NC)
18: 0,1 V (NC)
19: 0,1 V (NC)
20: 0,1 V

Pos.7420 TL074

1-3: 4,2 V
4: 8,5 V
5-8: 4,2 V
9: 4,3 V
10: 4,2 V
11: GND
12-14: 4,2 V

Pos.7421 BC847

B: 3,1 V
C: 8,5 V
E: 2,2...2,8 V (LEVEL DEP.)



Pos.6905 BAV99

1: 2,5...3,5 V (LEVEL DEP.)
2: 3,0...4,3 V (LEVEL DEP.)
3: 2,7...4,0 V (LEVEL DEP.)

Pos.7795 BC817-40

B: 0,1 V (FAN OFF) / 0,6 V (FAN ON)
C: 14,2 V (FAN OFF) / 1,6 V (FAN ON)
E: GND

Pos.7911 89CE558 (P)

1: GND
2: 5,0 V
3: GND
4: 5,0 V
5: 5,0 V
6: 0,4 V
7: 4,1 V
8: 4,6 V / 0,6 V (PHONE)
9: 4,0 V
10: 1,0...6,0 V (LEVEL DEP.)
11: 3,0...5,0 V (LEVEL DEP.)
12: 0,0 V
13: GND
14: 5,0 V
15: GND
16, 17: 5,0 V (NC)
18: 5,0 V
19: 0,1 V
20: 0,1 V (MO) / 5,0 V (ST)
21: 0,1 V
22: ca. 4,7 V
23: 0,1 V (NC)
24: 5,0 V (NC)
25: 5,0 V / LOW (SEARCH)
26: 0,5 V OR 5,0 V (AT BLEEP)
27: 5,0 V (NC)
28: 5,0 V
29: GND

30: 0,1 V
31, 32: 5,0 V
33: 5,0 V (ORANGE) / 0,1 V (GREEN)
34: 5,0 V (NC)
35: 0,0 V (NC)
36: 5,0 V / LOW (SEARCH)
37: 0,0 V / 4,4 V (SEARCH MUTE)
38: 0,1 V
39: 4,9 V (SCL)
40: 4,9 V (SDA)
41: 5,0 V (NC)
42: 5,0 V (NC)
43: 2,5 V
44: 5,0 V (RADIO OP.)

45: 5,0 V (NC)
46: 0,1 V (NC)
47: 5,0 V (V48) / ca. 2,0 V
49, 50: 0,0 V (NC)
51: 2,4 V Veff (11,0 MHz) / 2,3 Vdc
52: 0,7 Veff (11,0 MHz) / 2,1 Vdc
53: 5,0 V
54: 0,1 V
55-61: 5,0 V (NC)
62: 5,0 V
63: 5,0 V
64: 0,0 V (ON) / 5,0 V (OFF)
65: 5,0 V
66: 5,0 V

67: GND
68: 0,1 V
69: 0,1 V
70: 4,9 V (FSDA)
71: 4,9 V (FSCL)
72: 5,0 V (NC)
73: 4,8 V
74: 5,0 V
75: 0,1 V
76: 5,0 V
77: GND
78, 79: 0,0 V (NC)
80: 5,0 V (OSC)

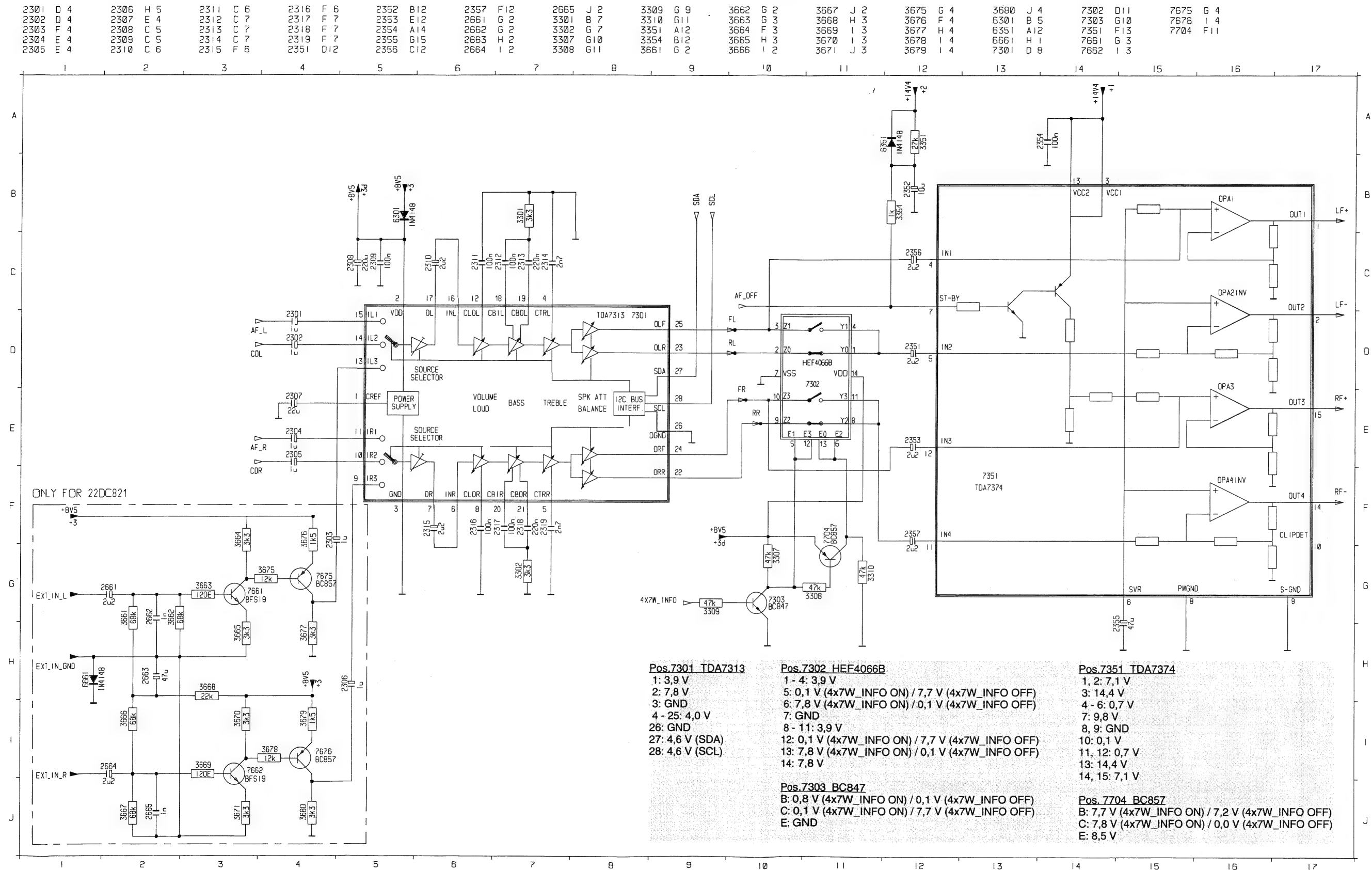
Pos.7912 ST24C16

1-4: GND
5: 4,6 V (SDA)
6: 4,6 V (SCL)
7: GND
8: 5,0 V

Pos.7913 BC847

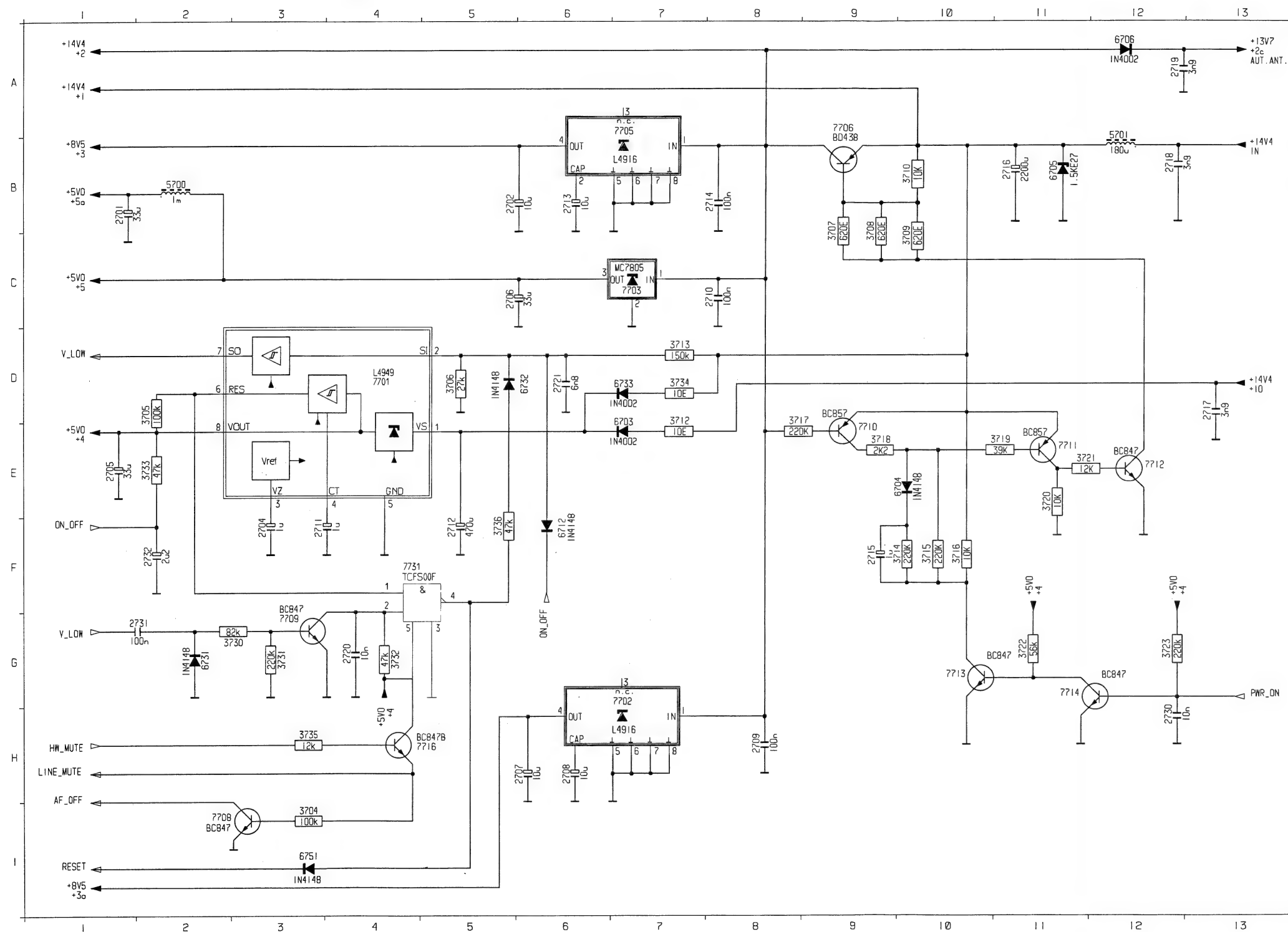
B: 0,1 V / 0,6 V (F_RES.)
C: 4,9 V
E: GND

AUDIO CONTROL / AF POWER STAGE



POWER SUPPLY

| | | | | | | | | | | | | | | | | | | | | | |
|------|-----|------|-----|------|------|------|-----|------|------|------|------|------|-----|------|------|------|-----|------|------|------|------|
| 2701 | B 1 | 2709 | H 8 | 2716 | B 11 | 2731 | G 2 | 3709 | C 10 | 3717 | E 8 | 3730 | G 3 | 5700 | B 2 | 6731 | G 2 | 7705 | A 7 | 7713 | G 10 |
| 2702 | B 5 | 2710 | C 8 | 2717 | D 13 | 2732 | F 2 | 3710 | B 10 | 3718 | E 9 | 3731 | G 3 | 5701 | B 12 | 6732 | D 6 | 7706 | A 9 | 7714 | G 11 |
| 2704 | F 3 | 2711 | F 3 | 2718 | B 12 | 3704 | I 3 | 3712 | E 7 | 3719 | E 11 | 3732 | G 4 | 6703 | E 7 | 6733 | D 7 | 7708 | I 3 | 7716 | H 4 |
| 2705 | E 1 | 2712 | F 5 | 2719 | A 12 | 3705 | D 2 | 3713 | D 7 | 3720 | E 11 | 3733 | E 2 | 6704 | E 10 | 6751 | I 3 | 7709 | G 3 | 7731 | F 4 |
| 2706 | C 5 | 2713 | B 6 | 2720 | G 4 | 3706 | D 5 | 3714 | F 10 | 3721 | E 11 | 3734 | D 7 | 6705 | B 11 | 7701 | D 4 | 7710 | E 9 | | |
| 2707 | H 6 | 2714 | B 8 | 2721 | D 6 | 3707 | B 9 | 3715 | F 10 | 3722 | G 11 | 3735 | H 3 | 6706 | A 12 | 7702 | G 7 | 7711 | E 11 | | |
| 2708 | H 6 | 2715 | F 9 | 2730 | H 12 | 3708 | B 9 | 3716 | F 10 | 3723 | G 12 | 3736 | F 5 | 6712 | F 6 | 7703 | C 7 | 7712 | E 12 | | |



Pos.7701 L4949

1: 13,6 V
2: 2,2 V
3: 7,0 V
4: 2,3 V
5: GND
6- 8: 5,0 V

Pos.7702 L4916

1: 14,2 V
2: 2,5 V
3: 0,0 V
4: 8,4 V
5- 8: GND

Pos.7703 MC7805

1: 14,2 V
2: GND
3: 5,0 V

Pos.7705 L4916

1: 14,2 V
2: 2,5 V
3: 0,0 V
4: 8,4 V
5- 8: GND

Pos.7706 BD438

B: 13,5 V
C: 14,2 V
E: 14,4 V

Pos.7708 BC847

B: 0,0 V
C: 10 V
E: GND

Pos.7709 BC847

B: 0,0 V
C: 5,0 V
E: GND

Pos.7710 BC857

B: 14 V
C: 10,2 V
E: 14,4 V

Pos.7711 BC857

B: 13,8 V
C: 14,4 V
E: 14,5 V

Pos.7712 BC847

B: 0,9 V
C: 0,3 V (ON) / 14,4 V (OFF)
E: GND

Pos.7713 BC847

B: 0,8 V
C: 0,2 V
E: GND

Pos.7714 BC847

B: 0,1 V (ON) / 0,6 V (OFF)
C: 0,8 V (ON)
E: GND

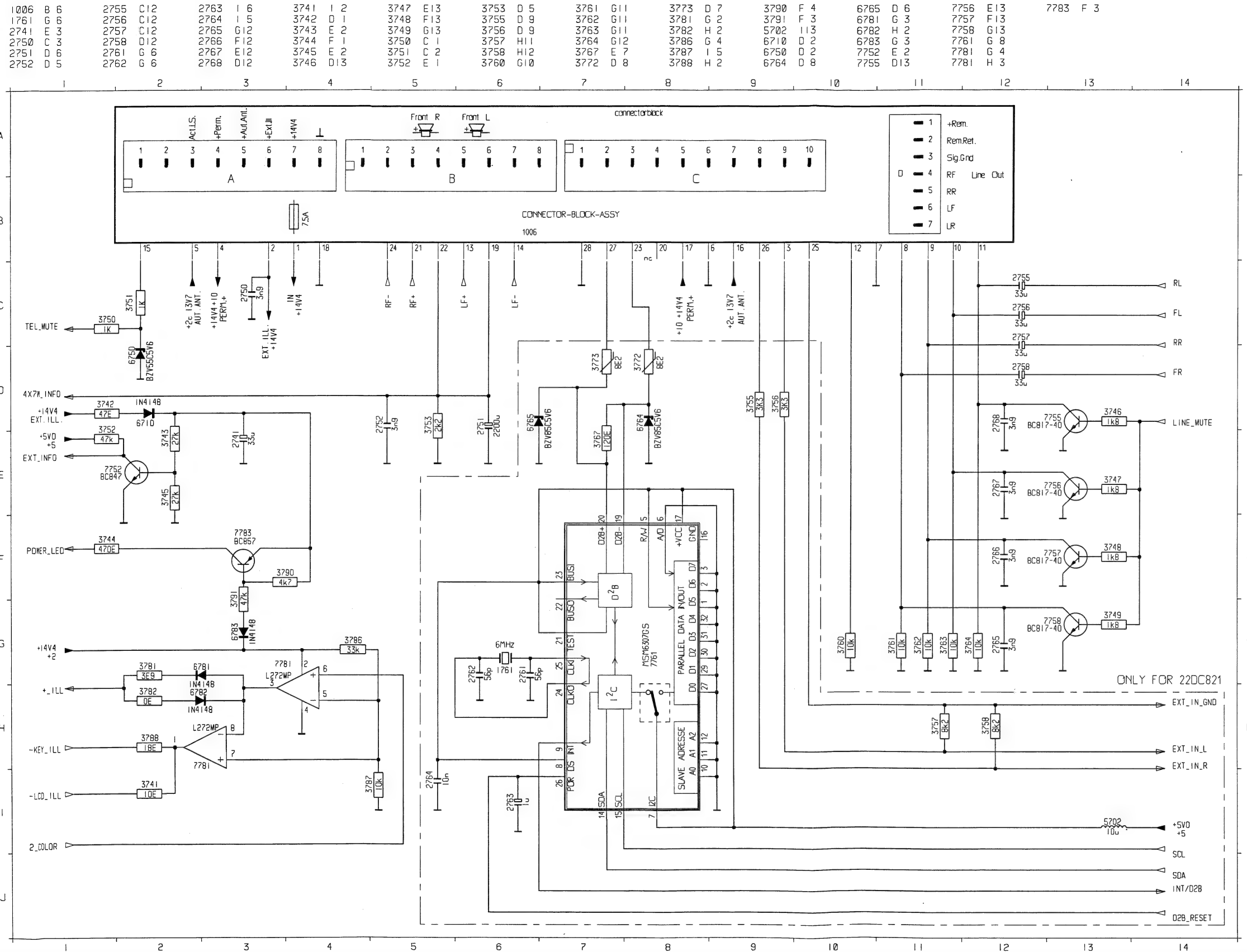
Pos.7716 BC847B

B: 0,1 V
C: 5,0 V
E: 0,0 V

Pos.7731 TCFS00F

1: 5,0 V }
2: 5,0 V }
3: 0,1 V } NORMAL OPERATION
4: 0,1 V }
5: 5,0 V }

CONNECTOR / CHANGER INTERFACE



Pos. 7752 BC847
B: 0,7 V (OFF) / 0,8 V (ON)
C: 0,0 V (OFF) / 0,1 V (ON)
E: GND

Pos. 7755 BC817-40
B: 0,0 V / 0,5 V (LINE MUTE)
C: 0,1 V
E: GND

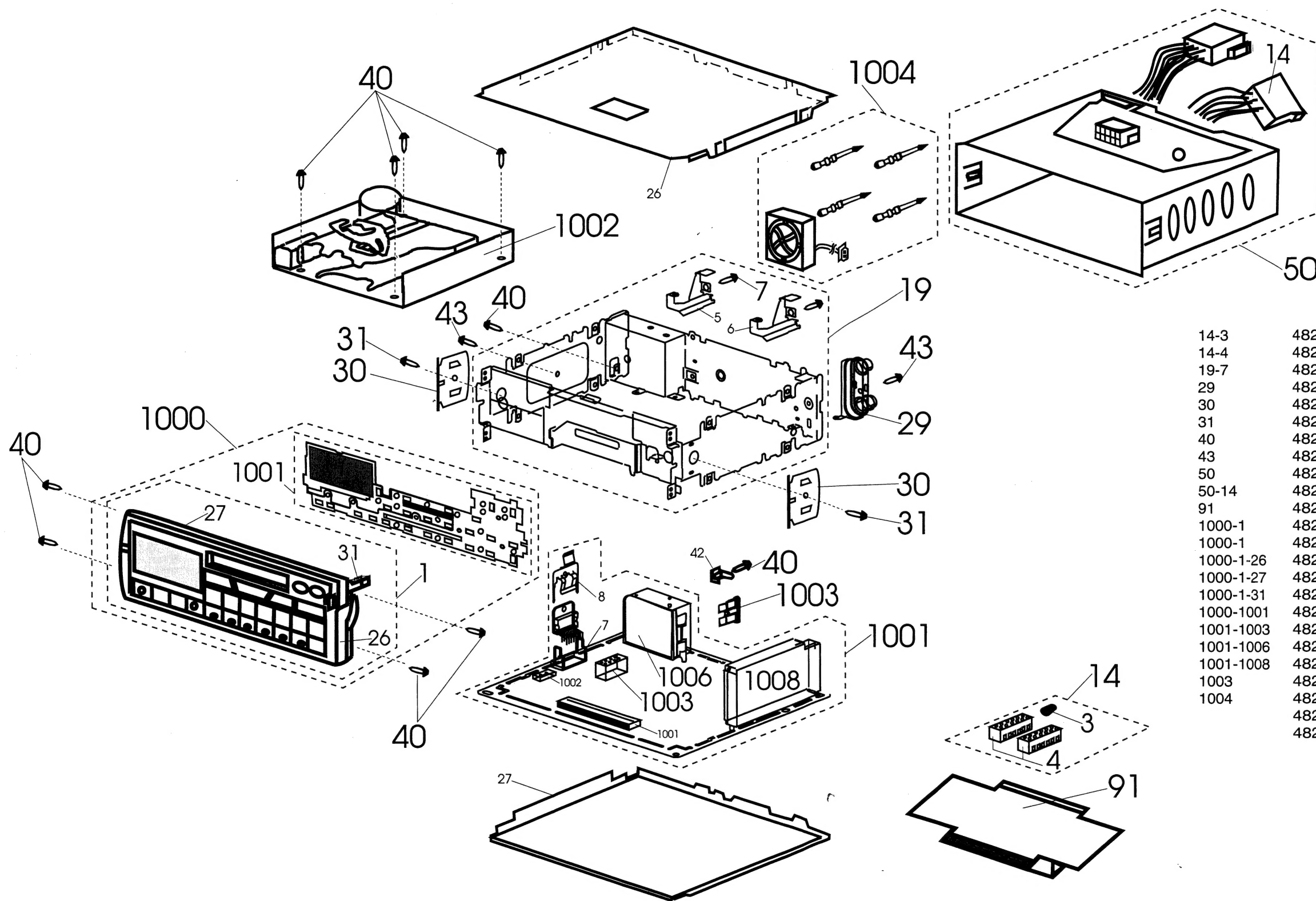
Pos. 7756 BC817-40
B: 0,0 V / 0,5 V (LINE MUTE)
C: 0,1 V
E: GND

Pos. 7757 BC817-40
B: 0,0 V / 0,5 V (LINE MUTE)
C: 0,1 V
E: GND

Pos. 7758 BC817-40
B: 0,0 V / 0,5 V (LINE MUTE)
C: 0,1 V
E: GND

Pos. 7781 L272 MP
1: 1,0 V (RED DISPLAY) / 13,3 V (GREEN DISPLAY)
2: 14,2 V
3: 13,3 V (RED) / 1,0 V (GREEN)
4: GND
5: 3,4 V
6: 5,1 V (RED) / 0,1 V (GREEN)
7: 3,4 V
8: 13,3 V (RED) / 1,0 V (GREEN)

Pos. 7783 BC857
B: 12 V (OFF) / 13,9 V (ON)
C: 12,3 V (OFF) / 0,0 V (ON)
E: 12,8 V (OFF) / 13,9 V (ON)



| | | | | |
|-----------|------|-----|-------|---------------------------|
| 14-3 | 4822 | 532 | 11092 | BUFFER MOUNTING |
| 14-4 | 4822 | 267 | 41036 | CONNECTOR MOUNTING 6P |
| 19-7 | 4822 | 502 | 11715 | SCREW M2,5X5 |
| 29 | 4822 | 268 | 20224 | AERIAL SOCKET |
| 30 | 4822 | 404 | 21234 | SPRING FIXATION |
| 31 | 4822 | 502 | 12866 | SCREW M3X5 |
| 40 | 4822 | 502 | 11715 | SCREW M2,5X5 |
| 43 | 4822 | 502 | 12796 | SCREW M2,5X12 |
| 50 | 4822 | 691 | 10414 | SLEEVE RETRAC |
| 50-14 | 4822 | 321 | 61534 | CABLE,CONNECT.POWER |
| 91 | 4822 | 015 | 20646 | DCC CLEANING CASS.SBC3500 |
| 1000-1 | 4822 | 459 | 50818 | ORN.PLATE ASSY DC811 |
| 1000-1 | 4822 | 701 | 13894 | ORN.PLATE ASSY DC821 |
| 1000-1-26 | 4822 | 498 | 40585 | RETRAC HANDLE |
| 1000-1-27 | 4822 | 464 | 70588 | FRAME COVER |
| 1000-1-31 | 4822 | 492 | 71083 | SPRING FOR HANDLE |
| 1000-1001 | 4822 | 214 | 52171 | FRONT PWB COMBINATION |
| 1001-1003 | 4822 | 267 | 51329 | CONNECTOR 12P |
| 1001-1006 | 4822 | 290 | 61114 | CONNECTORBLOCK ASSY |
| 1001-1008 | 4822 | 210 | 10589 | FM MODUL |
| 1003 | 4822 | 071 | 27502 | FUSE 7.5A |
| 1004 | 4822 | 515 | 20135 | COOLING FAN ASSY |
| | 4822 | 736 | 21941 | DIRECT. FOR USE DC811 |
| | 4822 | 736 | 22038 | DIRECT. FOR USE DC821 |

MISCELLANEOUS

| | | | |
|---------|----------------|-----------------|----------------|
| 1201 | 4822 242 72076 | CRYSTAL | 10,7 MHZ |
| 1202 | 4822 242 72076 | CRYSTAL | 10,7 MHZ |
| 1203 | 4822 242 71883 | CERAM FILTER | SFE10,7MS318-D |
| 1204 | 4822 242 71883 | CERAM FILTER | SFE10,7MS318-D |
| 1251 | 4822 242 71874 | CRYSTAL | 4,000 MHZ |
| 1402 | 4822 242 72195 | CRYSTAL | 4,332 MHZ |
| 1601 | 4822 242 81117 | RESONATOR | CSB456F11 |
| 1761 | 4822 242 81659 | RESONATOR | CST 5,75 MHZ |
| 1810... | | | |
| 1833 | 4822 276 20521 | SWITCH,PUSHBUT. | |
| 1911 | 4822 242 81646 | CRYSTAL | 11.059 MHZ |

CAPACITORS

| | | | | | |
|---------|----------------|-------------|-------|------------|------|
| 2101 | 4822 124 22646 | ELCAP | 47UF | 20% | 16V |
| 2102 | 5322 122 32654 | CAP.CHIP | 22NF | 10% X7R63V | |
| 2104 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2106 | 4822 122 33177 | CAP.CHIP | 10NF | 10% | |
| 2106 | 4822 122 32916 | CAP.CHIP | 220NF | 10% X7R63V | |
| 2107 | 5322 122 32654 | CAP.CHIP | 22NF | 10% X7R63V | |
| 2108 | 4822 124 40177 | ELCAP | 47UF | 20% | 10V |
| 2110 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2111 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2140 | 4822 122 32566 | CAP.CHIP | 3,9NF | 10% X7R63V | |
| 2201 | 5322 122 31647 | CAP.CHIP | 1NF | 10% X7R63V | |
| 2202 | 4822 122 32082 | CAP.CHIP | 4,7PF | 5% | 50V |
| 2203 | 5322 122 32659 | CAP.CHIP | 33PF | 5% | 50V |
| 2204 | 5322 122 32448 | CAP.CERAMIC | 10PF | 5% | 50V |
| 2205 | 4822 122 33514 | CAP.CHIP | 68PF | 5% NPO | 50V |
| 2206 | 4822 122 33515 | CAP.CHIP | 82PF | 5% NPO | 63V |
| 2207 | 4822 122 33514 | CAP.CHIP | 68PF | 5% NPO | 50V |
| 2208 | 4822 124 23282 | ELCAP | 1UF | 20% | 50V |
| 2209 | 4822 124 23281 | ELCAP | 33UF | 20% | 16V |
| 2210 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2211 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2212 | 4822 122 32916 | CAP.CHIP | 220NF | 10% X7R63V | |
| 2213 | 4822 126 11179 | CAP.CHIP | 6,8PF | 5% | |
| 2215 | 4822 124 22646 | ELCAP | 47UF | 20% | 16V |
| 2216 | 5322 122 32658 | CAP.CHIP | 22PF | 5% | 50V |
| 2217 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2218 | 4822 124 22646 | ELCAP | 47UF | 20% | 16V |
| 2219 | 4822 122 33178 | CAP.CHIP | 1NF | 20% | |
| 2219 | 4822 121 51354 | CAP.FOIL | 1NF | 10% | 50V |
| 2220 | 4822 122 33219 | CAP.CHIP | 1,8NF | 10% X7R50V | |
| 2221 | 4822 122 33178 | CAP.CHIP | 1NF | 20% X7R50V | |
| 2222 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2230 | 4822 122 33178 | CAP.CHIP | 1NF | 20% X7R50V | |
| 2231 | 4822 122 32082 | CAP.CHIP | 4,7PF | 5% | 50V |
| 2232 | 5322 122 33869 | CAP.CHIP | 15PF | 5% NPO | 63V |
| 2233 | 5322 122 32658 | CAP.CHIP | 22PF | 5% | 50V |
| 2240 | 5322 122 32654 | CAP.CHIP | 22NF | 10% X7R63V | |
| 2241 | 4822 122 33178 | CAP.CHIP | 1NF | 20% X7R50V | |
| 2241 | 4822 121 51354 | CAP.FOIL | 1NF | 10% | |
| 2251 | 4822 122 32566 | CAP.CHIP | 3,9NF | 10% X7R63V | |
| 2252 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2253 | 5322 122 32654 | CAP.CHIP | 22NF | 10% X7R63V | |
| 2254 | 4822 122 33608 | CAP.CHIP | 39NF | 10% X7R63V | |
| 2255 | 4822 121 43711 | CAP.FOIL | 470NF | 10% | 100V |
| 2256 | 5322 122 32654 | CAP.CHIP | 22NF | 10% X7R63V | |
| 2257 | 4822 124 23281 | ELCAP | 33UF | 20% | 16V |
| 2258 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2259 | 4822 124 80453 | ELCAP | 100UF | 20% | 10V |
| 2263 | 4822 051 20008 | RES.CHIP | JMPR | | |
| 2301... | | | | | |
| 2306 | 4822 124 23282 | ELCAP | 1UF | 20% | 50V |
| 2307 | 4822 124 23279 | ELCAP | 22UF | 20% | 16V |
| 2308 | 4822 124 23582 | ELCAP | 220UF | | 10V |
| 2309 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2310 | 4822 124 23504 | ELCAP | 2,2UF | 20% | 50V |
| 2311 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2312 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2313 | 4822 122 32916 | CAP.CHIP | 220NF | 10% X7R63V | |
| 2314 | 4822 122 32627 | CAP.CERAMIC | 2,7NF | 10% X7R50V | |
| 2315 | 4822 124 23504 | ELCAP | 2,2UF | 20% | 50V |
| 2316 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2317 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2318 | 4822 122 32916 | CAP.CHIP | 220NF | 10% X7R63V | |
| 2319 | 4822 122 32627 | CAP.CERAMIC | 2,7NF | 10% X7R50V | |
| 2351 | 4822 124 80726 | ELCAP | 2,2UF | 20% | 50V |
| 2352 | 4822 124 80813 | ELCAP | 10UF | 20% | 16V |
| 2353 | 4822 124 80726 | ELCAP | 2,2UF | 20% | 50V |
| 2354 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2355 | 4822 124 80724 | ELCAP | 47UF | 20% | 10V |
| 2356 | 4822 124 23504 | ELCAP | 2,2UF | 20% | 50V |
| 2357 | 4822 124 80726 | ELCAP | 2,2UF | 20% | 50V |
| 2361 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2401 | 4822 124 23504 | ELCAP | 2,2UF | 20% | 50V |
| 2402 | 4822 124 23504 | ELCAP | 2,2UF | 20% | 50V |
| 2403 | 4822 124 41017 | ELCAP | 10UF | | 16V |
| 2404 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |

| | | | | | |
|---------|----------------|-------------|--------|------------|-----|
| 2405 | 4822 122 33218 | CAP.CHIP | 820PF | 10% X7R | |
| 2406 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2407 | 4822 122 33216 | CAP.CHIP | 270PF | 5% NPO | 50V |
| 2408 | 4822 124 22646 | ELCAP | 47UF | 20% | 16V |
| 2409 | 4822 124 23504 | ELCAP | 2,2UF | 20% | 50V |
| 2410 | 5322 122 31946 | CAP.CHIP | 27PF | 10% | 50V |
| 2411 | 5322 122 31946 | CAP.CHIP | 27PF | 10% | 50V |
| 2412 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2414 | 4822 124 23504 | ELCAP | 2,2UF | 20% | 50V |
| 2420... | | | | | |
| 2424 | 5322 122 33538 | CAP.CHIP | 150PF | 2% NPO | 63V |
| 2425 | 5322 122 32448 | CAP.CERAMIC | 10PF | 5% | 50V |
| 2426 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2427 | 4822 122 32614 | CAP.CERAMIC | 1,2NF | 10% X7R50V | |
| 2428 | 5322 122 31865 | CAP.CHIP | 1,5NF | 10% X7R63V | |
| 2429 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2430 | 4822 124 23401 | ELCAP | 4,7UF | 20% | 25V |
| 2431 | 4822 124 41017 | ELCAP | 10UF | | 16V |
| 2432 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2433 | 5322 122 32654 | CAP.CHIP | 22NF | 10% X7R63V | |
| 2434 | 4822 122 33178 | CAP.CHIP | 1NF | 20% X7R50V | |
| 2435 | 4822 122 33178 | CAP.CHIP | 1NF | 20% X7R50V | |
| 2601 | 4822 124 23282 | ELCAP | 1UF | 20% | 50V |
| 2602 | 5322 122 32531 | CAP.CHIP | 100PF | 5% NPO | 50V |
| 2605 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2606 | 4822 124 23281 | ELCAP | 33UF | 20% | 16V |
| 2607 | 5322 122 32268 | CAP.CHIP | 470PF | 10% | 50V |
| 2608 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2610 | 4822 124 23279 | ELCAP | 22UF | 20% | 16V |
| 2611 | 4822 124 23282 | ELCAP | 1UF | 20% | 50V |
| 2612 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2613 | 4822 122 32916 | CAP.CHIP | 220NF | 10% X7R63V | |
| 2614 | 5322 122 32654 | CAP.CHIP | 22NF | 10% X7R63V | |
| 2615 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2616 | 5322 122 32268 | CAP.CHIP | 470PF | 10% | 50V |
| 2617 | 5322 122 33538 | CAP.CHIP | 150PF | 2% NPO | 63V |
| 2617 | 5322 122 32531 | CAP.CHIP | 100PF | | |
| 2618 | 5322 122 31866 | CAP.CHIP | 6,8NF | 10% X7R63V | |
| 2619 | 5322 122 31866 | CAP.CHIP | 6,8NF | 10% X7R63V | |
| 2620 | 5322 122 32531 | CAP.CHIP | 100PF | 5% NPO | 50V |
| 2621 | 5322 122 32531 | CAP.CHIP | 100PF | 5% NPO | 50V |
| 2622 | 4822 122 33178 | CAP.CHIP | 1NF | 20% X7R50V | |
| 2626 | 4822 122 33216 | CAP.CHIP | 270PF | 5% NPO | 50V |
| 2661 | 4822 124 23504 | ELCAP | 2,2UF | | |
| 2662 | 4822 122 33178 | CAP.CHIP | 1NF | | |
| 2663 | 4822 124 22646 | ELCAP | 47UF | | |
| 2664 | 4822 124 23504 | ELCAP | 2,2NF | | |
| 2665 | 4822 122 33178 | CAP.CHIP | 1NF | | |
| 2701 | 4822 124 23281 | ELCAP | 33UF | 20% | 16V |
| 2702 | 4822 124 41017 | ELCAP | 10UF | | 16V |
| 2704 | 4822 124 23282 | ELCAP | 1UF | 20% | 50V |
| 2705 | 4822 124 23281 | ELCAP | 33UF | 20% | 16V |
| 2706 | 4822 124 23281 | ELCAP | 33UF | 20% | 16V |
| 2707 | 4822 124 41017 | ELCAP | 10UF | | 16V |
| 2708 | 4822 124 41017 | ELCAP | 10UF | | 16V |
| 2709 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2710 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2711 | 4822 124 23282 | ELCAP | 1UF | 20% | 50V |
| 2712 | 4822 124 80815 | ELCAP | 470UF | 20% | 16V |
| 2713 | 4822 124 41017 | ELCAP | 10UF | | 16V |
| 2714 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2715 | 4822 124 80725 | ELCAP | 1UF | 20% | 50V |
| 2716 | 4822 124 42409 | ELCAP | 2200UF | 20% | 16V |
| 2717... | | | | | |
| 2719 | 4822 122 32566 | CAP.CHIP | 3,9NF | 10% X7R63V | |
| 2720 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2721 | 5322 122 31866 | CAP.CHIP | 6,8NF | 10% X7R63V | |
| 2730 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2731 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2732 | 4822 124 23504 | ELCAP | 2,2UF | 20% | 50V |
| 2741 | 4822 124 80814 | ELCAP | 33UF | 20% | 16V |
| 2750 | 4822 122 32566 | CAP.CHIP | 3,9NF | 10% X7R63V | |
| 2751 | 4822 124 42409 | ELCAP | 2200UF | 20% | 16V |
| 2752 | 4822 122 32566 | CAP.CHIP | 3,9NF | 10% X7R63V | |
| 2755... | | | | | |
| 2758 | 4822 124 23281 | ELCAP | 33UF | 20% | 16V |
| 2763 | 4822 124 23282 | ELCAP | 1UF | | |
| 2764 | 4822 122 33177 | CAP.CHIP | 10NF | | |
| 2765... | | | | | |
| 2768 | 4822 122 32566 | CAP.CHIP | 3,9NF | 10% X7R63V | |
| 2795 | 4822 124 23255 | ELCAP | 100UF | | 16V |
| 2901 | 4822 122 33178 | CAP.CHIP | 1NF | 20% X7R50V | |
| 2902 | 4822 122 33178 | CAP.CHIP | 1NF | 20% X7R50V | |
| 2903 | 4822 122 33342 | CAP.CHIP | 33NF | 10% X7R63V | |
| 2904 | 4822 122 33342 | CAP.CHIP | 33NF | 10% X7R63V | |
| 2905 | 4822 124 41017 | ELCAP | 10UF | | 16V |
| 2911 | 5322 122 32268 | CAP.CHIP | 470PF | 10% | 50V |
| 2913 | 5322 122 32965 | CAP.CERAMIC | 18PF | 5% NPO | 50V |
| 2914 | 5322 122 32661 | CAP.CHIP | 56PF | 5% | 50V |
| 2915 | 4822 124 41017 | ELCAP | 10UF | | 16V |

| | | | | | |
|---------|----------------|----------|-------|------------|--|
| 2916 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2917 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |
| 2918... | | | | | |
| 2920 | 4822 122 33177 | CAP.CHIP | 10NF | 20% X7R50V | |
| 2924 | 4822 122 33178 | CAP.CHIP | 1NF | 20% X7R50V | |
| 2927 | 4822 122 33496 | CAP.CHIP | 100NF | 10% X7R63V | |

RESISTORS

| | | | | | |
|------|----------------|--------------|--------|--------|--------|
| 3101 | 4822 051 20478 | RES.CHIP | 4R70 | 5% | 0,1W |
| 3102 | 4822 051 20102 | RES.CHIP | 1K00 | 5% | 0,1W |
| 3103 | 4822 051 20221 | RES.CHIP | 220R00 | 5% | 0,1W |
| 3105 | 4822 100 11163 | POTM.TRIMMER | 100K | 30%LIN | 0,1W |
| 3106 | 4822 051 20478 | RES.CHIP | 4R70 | 5% | 0,1W |
| 3109 | 4822 051 20273 | RES.CHIP | 27K00 | 5% | 0,1W |
| 3201 | 4822 051 20561 | RES.CHIP | 560R00 | 5% | 0,1W |
| 3202 | 4822 051 20471 | RES.CHIP | 470R00 | 5% | 0,1W |
| 3205 | 4822 051 20102 | RES.CHIP | 1K00 | 5% | 0,1W |
| 3206 | 4822 051 20102 | RES.CHIP | 1K00 | 5% | 0,1W |
| 3207 | 4822 051 20223 | RES.CHIP | 22K00 | 5% | 0,1W |
| 3208 | 4822 051 20333 | RES.CHIP | 33K00 | 5% | 0,1W |
| 3230 | 4822 051 20224 | RES.CHIP | 220K00 | 5% | 0,1W |
| 3231 | 4822 051 20152 | RES.CHIP | 1K50 | 5% | 0,1W |
| 3232 | 4822 051 20104 | RES.CHIP | 100K00 | 5% | 0,1W |
| 3240 | 4822 051 20472 | RES.CHIP | 4K70 | 5% | 0,1W |
| 3241 | 4822 051 20224 | RES.CHIP | 220K00 | 5% | 0,1W |
| 3253 | 4822 051 20472 | RES.CHIP | 4K70 | 5% | 0,1W |
| 3256 | 4822 051 20102 | RES.CHIP | 1K00 | 5% | 0,1W |
| 3257 | 4822 051 20008 | RES.CHIP | 0R00 | JUMP. | (0800) |
| 3258 | 4822 051 20008 | RES.CHIP | 0R00 | JUMP. | (0800) |
| 3301 | 4822 051 20332 | RES.CHIP | 3K30 | 5% | 0,1W |
| 3302 | 4822 051 20332 | RES.CHIP | 3K30 | 5% | 0,1W |

Service
Service
Service

22DC811/00R

22DC821/00R

5101

Service Information

1. The exchange procedure for complete sets is no longer valid. Repairs of faults belonging to the set can now be done in your service shop. The hints on the backside can maybe help you in some cases.
Because of some intermitten effects with sets built with RC 1 we recommend to update these radios to RC 2. Use IC 4822 209 33973 on pos. 7911.
For other changes and modifications of the sets see also Service Newsletters from issue 1994-W 02 onwards.
2. For the DCC tape decks use the CENTRAL REPAIR PROCEDURE of Philips Consumer Service from now on.
Information about this procedure (same as for CD deck CMX200) you can get from

Mr. Cor Lieberwirth
Philips Consumer Electronics B.V.
Philips Consumer Service
Beukenlaan 2, Building SBP 5
5600 MD Eindhoven
The Netherlands

All sets 22DC811 and 22DC821 have a DCC deck with software RC26 (4822 691 21024).
This decks will gradually be replaced by RC27 - versions (4822 691 10442) in service stock of Consumer Service Eindhoven.
A sticker on the backside of the digital print shows the version:

| | |
|--------------|-------------|
| DCC DA26 | RC26 (OTP) |
| DCC DA26-077 | RC26 (MASK) |
| DCC DA27 | RC27 (OTP) |
| DCC DA27-077 | RC27 (MASK) |

RC27 deck software is only usable with radio software RC2 !
22DC811 and 22DC821 sets with RC1 must get a software update to RC2 when a RC27 deck will be installed !

Use also the insulation cover 4822 423 41288 to protect the flex foil against damage and the control PWB against short circuit with the frame ! (see Service Manual 22DC822)

When 22DC811 is updated to RC2 it will show some different behaviour:

1. After Power on DCC821 appears instead of DCC811
2. During volume adjustment VOL XX appears in the display
3. BLEEP is disabled (solder a wire between pins 16 and 26 of Main processor to enable BLEEP again)

4822 725 23525



PHILIPS

| COMPLAINT, SET RELATED | REASON | SOLUTION IN PRODUCTION | SERVICE SOLUTION |
|---|---|--|--|
| No function/obscure behaviour | Set with OTP-IC, software crash EEPROM defect | Only mask programmed IC's used Check incoming goods | Change OTP into mask (see Service Newsletter 1994-W 02) Send set to Wetzlar for new programming |
| Switch off by itself, RDS mutes | Wrong value of chip capacitor pos.2911 | Value changed into 33 nF | Change pos.2911 into 33 nF (see Service Newsletter 1994-W 02) |
| No sound | TDA7374 defect, wrong speaker connection | Sticker added on retrac | Exchange TDA 7374, inform customer |
| No function, no display | Bad soldered frontconnector | Better check | Solder all pins |
| COMPLAINT, DECK RELATED | | | |
| Deck no function, no insert possible | Fixing hook of pivot plate broken Hang out of loading, burr at locking lever Servomotor loose, bracket broken Loading sticks at guiding rod Cassette retainer of carrier/lift assy out of shape Control PWB defect | Hook changed in production Locking lever modified in production Modification of bracket Guiding rod changed in production Modification of retainer Check incoming goods | Exchange deck Exchange deck Exchange deck Exchange deck Exchange carrier/lift assy Exchange control PWB |
| Drift + Flutter | Pivot plate not greased | Capstan bearing greased separately | Grease bearing |
| DCC interruptions, TAPE displayed while DCC | Flex foil at control PWB broken | Mounting of PWB changed in production | Exchange control PWB |
| DCC and/or analog cassette no playback | Head dirty | | Clean head, ask customer for regular cleaning Exchange head, new alignments necessary (see Manual) |
| No sound from tape deck | Audio PWB defect | Check incoming goods | Exchange PWB, new alignments necessary (see Manual) |
| No DCC playback when warm | Bad adjustment of capstan | Better check | Exchange deck |
| No or bad sound from DCC | Digital/DAC PWB defect | Check incoming goods | Exchange PWB, new alignments necessary (see Manual) |
| Cassette jammed | Carrier/lift and lift rod jammed | Improvement of carrier/lift assy | Exchange carrier/lift assy |